

MICHIGAN FARMER

AND STATE JOURNAL OF AGRICULTURE.

GIBBONS BROTHERS, Publishers.

DETROIT, SATURDAY, AUGUST 4, 1898--WITH HOUSEHOLD SUPPLEMENT.

PRICE, \$1.50 PER YEAR

VOLUME XIX.

"PRACTICE WITH THEORY AND SCIENCE"

NUMBER 32.

CONTENTS.

Agricultural.—Pastures for Milk Cows— Corn Smut—The Wool Taste in Mutton— Wool in Great Britain—Dairy Notes from France—Notes from Ingham County— A Great American Industry—The American Shorthorn—Another Good One from Materdole—Common Sense Breeding— Horse Gossip.	1
The Horse.—Dates of Trotting Meetings in Michigan for 1898—The Detroit Meeting— French Coachers—Another Good One from Materdole—Common Sense Breeding— Horse Gossip.	2
The Farm.—Superphosphate on Wheat— An Unexpected Result—Simple Rules for Butter-Making—Rye—Agricultural Items	2
The Poultry Yard.—An Egg Shell—Risks at Exhibitions.	2
Horticultural.—A Walk Through the Rasp- berry—Drainage of the Orchard—Two Foes of the Strawberry—Ingenious Sub- stitutions—Pruning for Fruitfulness—Dis- honest Salesmen—Southern California— The Vegetable Garden—Horticultural Notes.	3
Apiculture.—Give Us a Change—How Bees Make Cells.	3
Miscellaneous.—Fetters—Fun in a Bank— The Good Old Times—Ignorance Kept Him Honest—Because I Love You—Making Fire-Works— The Pawnbroker's Trade—Five Thousand School Ma'ams—At a Lottery Agency— Hirsute Electrolit—Monody of a Pen— The Retort Coquette—Heronettes of To- day—Alligator Plait—Undersentimental Friends—Vicious—Chaff.	4
Foreign.	4
Poetry.—Our Ain Folk—Where they Go— Miscellaneous.—Fetters—Fun in a Bank— The Good Old Times—Ignorance Kept Him Honest—Because I Love You—Making Fire-Works— The Pawnbroker's Trade—Five Thousand School Ma'ams—At a Lottery Agency— Hirsute Electrolit—Monody of a Pen— The Retort Coquette—Heronettes of To- day—Alligator Plait—Undersentimental Friends—Vicious—Chaff.	6
Veterinary.—Morbid Secretion of Saliva in a Colt, with Enlargement of the Salivary and Thyroid Glands—Bureau Museum— Hook Joint of a Three Months' Old Filly— Gout in a Stallion.	8
Commercial.	8

CORN SMUT.

Treatment and Preventive Measures.

The Report of the Department of Agriculture for 1887 has quite a lengthy and interesting article upon "Smut in Indian Corn," and from it we take the following regarding the treatment of the disease and preventive remedies:

It is as certain that corn smut can not originate spontaneously as that the corn itself must grow from seed. The destruction of the spores, then, means the reduction of the smut source or later, but co-operation over wide areas is necessary, since the spores are light and may be carried in the atmosphere more easily than dust particles. Any remedy must be thoroughly tried before being condemned for apparent failure (one year is not sufficient), and every source of error must be guarded against. However carefully the smut is cut out and burned, if manure with which is intermixed smut of previous years is applied to the land the remedy will probably be ineffective, because the spores germinate in the manure.

Destructive treatment.—Cutting out should be practiced intelligently and persistently, and farmers should co-operate. The smut should be cut out as early as possible, as soon as it gives the first evidence of its presence by the swellings it produces and before any of the spores burst through the epidermis. Corn is probably the only crop in which the smut becomes evident long enough before maturity to make treatment effectual, or at least possible. As soon as the spores begin to break out they will be scattered far and wide over the whole field. Any ears that are partly smutted and are overlooked till the husking should not be thrown in with the rest of the corn, for two reasons: They will scatter their spores, and if in large quantities will injure the cattle eating them. If any smutty stalks are standing when the corn is cut they should not be cut with the rest, but kept separate and destroyed. Masses of smut are frequently swallowed by cattle with the rest of the corn, and are liable to produce disease and death. A correspondent of the *Country Gentleman*, September 12, 1878, reports the loss of several head of cattle and sheep from this cause. Diseased parts cut out should be completely destroyed, not thrown upon the ground nor into a manure or compost pile. The spores may germinate and grow for an indefinite period, as already shown, and when the manure is applied to the field they will be ready to seize upon young corn and penetrate its tissues. One writer suggests feeding to pigs, but this should never be done, for if the smut does not injure the pigs the spores will pass through the intestines without injury to themselves and infect the manure.

Farmers will urge that they can not afford the work or money necessary to cut out the smut. In answer to this objection Professor Bessey makes the following estimate: "A 40 acre field should produce at least \$500 worth of corn. There is rarely less than one smutty ear to one square rod. This amount would be two per cent of the crop and would be worth \$16. Each additional smutty ear per square rod destroys \$16 worth of corn in the field. Will it not pay to save annually a loss of two per cent, and upward, and occasionally a loss 15 to 25 per cent, \$120 to \$200, for a field of this size?"

Selection of seed.—Much may be gained by selecting for seed the largest and most perfectly developed grains. Experiments have shown this will insure a larger yield, and it is also true (?) that corn from such seed is less liable to smut. Weak plants can offer less resistance to the attack of the fungus, as a weak man can less effectively resist disease. Thrifty plants can better withstand the smut if it gains entrance, and are more likely to escape its entrance, because they more quickly pass the stage at which the smut is known to enter them.

Application of remedies.—Any outward application to the growing corn would be useless if it could be made, because the fungus is entirely within the tissues of the host until after the damage is done. Various applications have been tried to destroy spores adhering to grains. They have been made for this purpose to wheat, and there is no apparent reason why a remedy would not be as effectual in one case as the other. It seems to be generally agreed that lime water is not effective. A weak solution (1/2 per cent) of sulphuric acid is recommended for corn by some German experimenters.

Copper sulphate (blue vitriol) has been most used with good results. One experimenter with copper sulphate for corn smut records that no perceptible benefit was gained. If he fertilized the field with manure in any way infected by smut spores, which is not unlikely, it would be a sufficient reason to explain the failure. The method of application which prevails in Europe differs from the American method. The former is fully described by Sauer in his work on plant diseases. Here comments a weak solution and long soaking; a 1/4 per cent solution of sulphate of copper and sixteen hours soaking he considers best. The solution should cover the corn deeply enough so that none shall be exposed when the latter swells, and the mass should be stirred well and all the grains that float skimmed off.

Sauer states that a one per cent solution kills four per cent of the seed in twelve to sixteen hours. After soaking, the grain is spread out on a flat surface to dry, and it should be sown soon afterwards. It is dry

enough for hand sowing in a few hours and for the drill in twenty-four hours.

The practice in America is quite different. Strong solutions are used and the grain is immersed only a short time.

All other preventive measures will be likely to be of little avail if the manure put upon the land is contaminated with smut spores from smutty corn fed to stock, or smutty stalks thrown into the manure pile, or from whatever source.

Brefeld's investigations show how manure may spread infection. A direct demonstration of this point by Morini is quoted by Sauer. Bran with which corn smut spores were mixed was fed to a cow. The dung in which the spores were found germinating was put upon a piece of land with corn seed. The resulting growth of corn was, as a whole, smutty. Of thirty others damped with gum water and covered with ungerminated spores only four plants were smutty. This shows the injury that may come from spores germinating in manure. It does not prove that passing through the animal makes them more active. In Brefeld's experiments, on the contrary, nearly all spores sown in a nutritive solution in the spring germinated within twenty-four hours. It shows that every precaution should be taken to keep the manure free from stock and out of manure piles. Burying the smut deeply suggests itself as a convenient and efficient means of disposing of it. Burying is effective, but care must be taken that spores shall not be carried away and scattered by currents of air about the fire. Rotation of crops should be practiced for evident reasons.

In Europe two other species of smut occur in corn and both are most prevalent in Italy. *Ustilago Fuscheri*, Pass., attacks the cob, and in Italy, especially about Parma, "some times destroys about half the crop. *Ustilago Relisana* was introduced into Italy on sorghum from Egypt, and in the former country it grows also on corn, attacking the flowers of the tassels.

THE "WOOL TASTE" IN MUTTON.

Hon. Cassius M. Clay, of Kentucky, in a letter to the N. Y. *Tribune*, calls attention to the fact that a circular from the "American Public Health Association" contains a recommendation of a method for the prevention of the "wool taste" in mutton which is fallacious. The recommendation, which has been published time and again, was as follows:

"In dressing a mutton the woolly coat should not be allowed to touch the flesh. There is quite a perceptible difference in the flavor of mutton taken from a fattened weaver which has been for some time deprived of all access in its woolly coat, and of that taken from a sheep which has heavy fleece."

Mr. Clay then proceeds to give his experience in dressing mutton, the reason for the frequent presence of this "wool taste," and the method he has successfully followed to keep his mutton free from it. What he says is as follows:

"Of all the methods of improving the soil and destroying weeds sheep are the best. Of all domestic meats mutton is the most wholesome, being a specific for many diseases. It is the most convenient to the farmer as butchering meat. In the history of mankind it has played the most important part of its necessities, giving wool, hides, milk and butter. If all of the industries of these States were put to the test of survival or destruction, the sheep would remain as the first factor in civilization."

"The 'wool taste' then comes not of the wool or the length of the wool on the sheep, but of the infusion of the excretions of the intestines into the circulation, which taints the flesh with the offensive 'wool taste.' The lining strata of the intestines prevent the offensive entrance of the excreta into the capillary tubes of the absorbing surfaces. But so soon as the vital powers cease this capacity of resistance ceases and the unpurified excretions are infused into the venous circulation."

"In consequence of these facts, it is best to starve the sheep for twenty-four hours before killing, giving water, however, plentifully. This empties the stomach and bowels of the sheep and diminishes the tendency of infusion. The sheep, all things being ready, should have the throat cut all round to the bone, thus bleeding it freely. As soon as the sensibility of the victim is lost, it should be skinned partly on the hind quarters to save time, then hang up and the skinning rapidly completed and the whole entrails at once taken out. The flesh is then perfectly sweet, and no 'wool taste' is perceptible. As the wool grows from the surface of the skin and is pushed forward as the outer bark of the tree, no circulation returns from the ends of the wool, and how then can its length affect the mutton? But as the wool has been and continues on the sheep before and after birth, what absurdity it is to cut the wool off a short time before killing! If the sheep is butchered rightly you may safely wrap the carcass in the wool and lay it by till used."

"Among all the hunters of my circle in early life we were accustomed to take out the intestines of the squirrels and hares as soon as shot, before cooling. Birds killed and dressed at once are very different from the game of the shops of the cities, where they reach a 'high flavor,' the flavor which delights the dog from his half-decayed

buried meat. *De gustibus non disputandum est*. So the Pontic monarchs fed on poison and lived. Save us from the doctors, the demagogues and the dogs!"

WOOL IN GREAT BRITAIN.

The following interesting facts regarding the wool-growing industry in Great Britain is taken from an article prepared by Mr. John W. Turner, of Bradford, England, and published by the *Journal of the Royal Agricultural Society*:

As a contribution toward a better knowledge of the subject, Mr. Turner briefly describes British wool and its uses, before proceeding to discuss its commercial aspects. The long-wools (Lincoln, Cotswold and Leicester), he tells us, are subdivided for commercial purposes into lustre and demilustre. The pure lustre wools were formerly made chiefly into ladies' dress goods, and twenty years ago commanded a much higher price in proportion to other goods than they do now. Lustre or brightness alone, which entered so largely into the enhancement of the value of these wools for dress purposes, is now of secondary importance. It is, however, still necessary that they should be smooth and straight, and any crossing with rougher breeds for the purpose of obtaining weight, or with broken breeds for the sake of the mutton, reduces their value. Mr. Turner speaks of the uncommercial difficulty of sometimes making the wool-grower understand this point, in connection with the fact that in lustre, as in other wools, the finer the fibre the more valuable is the wool. Hearing that fine wools are the best to sell, the long-wool grower in many cases tries to improve his wool by crossing it with the Down; the result generally being that he loses the lustre and smooth straight hair without obtaining enough of the fineness of the Down to be of any commercial value. This, of course, is not directed against the crossing of breeds, but merely against the erroneous notion that the fineness of wool of one breed can be grafted into another without altering its original characteristics. A colonial farmer under such circumstances as those of the long-wool grower would, Mr. Turner points out, have preserved the character of his breed, but would have continued it by a careful selection of the finest wooled among his sheep.

The demilustre wools are made into camels for men's clothing in China, Japan, and northern Asia; into lastings for boots and furniture; and into bunting for flags, and some kinds of curtain stuffs. The value of this class of wool consists in its length, strength and solidity of fibre. Fineness of hair is valuable so long as it is obtained in the right way, but this must be done by selection within the family itself, and not by crossing from the outside. These wools are used for classes of dress goods where a certain "handle" is required, and any interference with the breed removes the wool into other channels of trade.

In Down wools, on the other hand, which are principally used for hosiery, undergarments, flannels and similar goods, also for some woollen goods where a springy light handle is desired, absence of lustre, the finest possible fibre, and not too much length, are the desirable qualities. Mr. Turner's opinion, there will always be by comparison a good demand for pure bred Down wools, because they possess qualities which render them suitable for the uses just mentioned in greater perfection than any other wool. But, as already stated, crossing deprives the breed of its best qualities, from the wool-buyer's point of view. An illustration is given by Mr. Turner of a clip of wool from a Hampshire Down flock, which had been improved by crossing with the very heaviest Lincoln. All the good qualities in the two breeds were effectually destroyed. No lustre manufacturer would use the wool, as the lustre has disappeared. No maker of bunnings or similar goods could use it, as the staple was too short; whilst for the hosiery trade it was utterly too long and too coarse. The lot was ultimately sold at about 50 per cent. less than the value of Down, and 25 per cent. less than the value of Lincoln at the time.

Half-bred wool occupies, as far as supply goes, the most important position in the market. It is the largest item in the English clip. It is an ever-increasing quantity in the Colonial clip, and probably of the forty million of sheep in America the greater number are half-breeds. Mr. Turner uses the name "half-bred" throughout in the same sense as it is generally used in Yorkshire, to signify a cross between a coarse and a fine-wooled sheep. What is required in this class of wool is a moderate length of staple, softness of handle, and the greatest fineness that can be obtained. As there is the keenest competition in this class, it follows that the greatest amount of knowledge on the part of the British farmer is necessary to hold his own in the contest. Yet Mr. Turner is able to show that the growers of half-bred wool in this country have for the last quarter of a century or so been steadily playing into the hands of the Colonists. Twenty-five years ago some of our half-bred wools were celebrated, and justly so, for their fineness and softness, and they were very much sought after for certain classes of goods. This was notably true of the Norfolk half-bred wool. But about the time named the Norfolk half-bred

wool-growers got dissatisfied with the weight of their fleeces, and carried away, no doubt, by the high prices which the neighboring farmers of Lincolnshire could make of their much heavier wool, they began to take means for increasing the weight of the fleece. The only thing aimed at appeared to be weight, and very little thought was given to the effect upon the character of the wool. The result has been that the Norfolk half-bred of to-day is a mongrel breed, which is beaten by almost every sort it competes with. The same mistake has been made in other districts, and has been one of the causes of the downward tendency of prices.

Under the head of "mixed breeds," Mr. Turner includes all wools which have in them a cross of the Scotch black-faced, more or less recent, and in various degrees. Throughout the north there are various wools which show all kinds of mixtures. "The value of these broken-bred wools is now somewhat higher in proportion to other wools than it formerly was, a good many of them being utilized in the manufacture of so-called homespun, chevils and tweeds of the rougher class."

Mr. Turner shows very conclusively that imported wool is a great and important factor in determining the value of our home clip. In 1861, the total import of wool of all kinds into this country was, in round figures, 150,000,000 of pounds, or about an equal quantity to our own production. In 1880, our own production had fallen 136,000,000, while the imports had increased to 615,000,000. More than 300,000,000 lbs. of this enormous increase is the produce of Australasia. During the whole of the period the Colonial wool has been steadily improving. Everything that attention and business ability can accomplish is done by the Colonials to meet the want of the trade. The result is that, with the exception of pure lustre wool, every kind of British wool can be matched and beaten in the London sales of Colonial wool. And while all this has been taking place, our own wool in the classes which compete with Colonial has been deteriorating.

The mode of business between wool-growers and wool-users is next adverted to, and Mr. Turner's strictures on this part of the home trade are only too well merited. There are many points about the manner in which Colonial wool is sent to market and dealt with, which gives it an enormous advantage over our own. The flocks are often very large, and after being shorn, the wool is generally thoroughly skirted, and also classed into different descriptions, so that on its arrival in London large quantities of it can be taken direct to the comb without any sorting whatever. As the sales generally last from three to six weeks, and there are seldom less than 100,000 bales offered every night there is plenty of choice. When this style of business is compared with the dilatory and unbusiness-like manner of buying English wool from the farmer, it will be seen what an immense saving of time and trouble there is to the user of Colonial wool as compared with the user of British. A manufacturer can, and often does, purchase as much wool in London in a single night as would take him a month to buy in the country.

To the inquiry as to what can be done to enable our farmers to get more for their wool, or even something like old time prices, Mr. Turner can only reply that at present he sees very little hope of any substantial rise in prices. An import of more than 600,000,000 of pounds of wool is a factor which effectually removes any of the exclusive conditions which formerly helped to keep up the price of British wool. For though it must be admitted that we do not retain quite half of it for the use of our mills, yet we have to compete with the other half in the shape of manufactured goods of France and Germany in all the markets of the world. Thus the question is not how to hold its own in the competition. Mr. Turner's answer to this is: "Let the wool which is known to suit a district be grown there in all its ancient purity; and let farmers generally take care that their wool is got up for market better than it often is."

DAIRY NOTES FROM FRANCE.

From our Paris Correspondent.

PARIS, July 1st, 1898.

In order to bring home to dairy farmers the important resolutions recently adopted in butter and cheese making, the French government intends to delegate ambulatory experts to dairy districts, provided with the latest implements for separating the milk, so as to ensure the least loss of butterfat, and by rapidly creaming, have the skimmed milk sweet for cheese making. The old plan of placing the new milk in shallow pans and there leaving it for 30 or 48 hours to throw up the cream, has become antiquated. By means of the Centrifugal apparatus, the cream can now be extracted as it comes fresh from the cow. A manufacturer undertakes to supply the necessary modern dairy apparatus to these farmers whom the experts certify as qualified, taking payment by easy installments. Another point will be forced on to the attention of farmers, that of making the foreign cheese so largely imported. Soft cheese must always be a local output. But Gloucester, Cheddar, Dutch and Gorgonzola "brands," can be, and are being largely imported. The London market may

soon count upon a greater supply of clean and fine roll French butter, tastefully made up and moderately colored. Models of that sent out by English makers are being sent over to Normand dairies.

Messrs. Van Lookeren and Gerlings have discovered a plan for at once detecting the difference between natural and artificial butters. Boil a little pure or distilled water in a clean vessel; melt less than a pea of the suspected butter in a coffee-spoon over a candle flame; pour some of the boiling water into a watch glass, and simultaneously drop the hot melted butter. If natural, the butter will spread into a thin layer; then it will rapidly separate into hundreds of small grains and float to the edge of the glass. If artificial, the butter will remain as a layer of grease, with large beads or granules swimming therein. Skimmed milk is extensively used for rearing calves and fattening pigs. In Hamburg cart and old horses are supplied with such milk as drinks. The idea to give it to foals of heavy races of horses, after being heated and mixed with prepared linseed, does not meet with favor. An agriculturalist in the department of Isere, could not find any market for his skimmed milk. He consulted a baker, and they agreed to employ it in bread making; the milk is creamed immediately when taken from the cow, and then sent to the baker in a sweet condition. In this state it does not prevent the dough from rising. The public taste has been hit by the appetizing flavor of the loaf, and above all, by its attractive whiteness, so the farmer and the baker are doing well.

Frequently after the milk has been brought to the dairy, it undergoes an alteration, becomes "blue." M. Mosselman, of the Curehen Veterinary School, states this change is caused by microscopic germs, and is generally due to sickness with some of the cows. When the affected animal is found, administer some exciting medicine, as gentian or caraway seed; others give the animal 1/2 oz. of carbonate of lime or soda, or 17 oz. of ordinary vinegar daily, and feed well. The dairy and its vessels should be well scoured and disinfected.

NOTES FROM INGHAM COUNTY.

Holt, July 26, 1898.

To the Editor of the Michigan Farmer.
To-day has been a day long wished for by the farming community. Rain commenced falling in the night and continued nearly all day, assuring us, we hope, a good corn and potato crop. Your correspondent secured the last load of wheat bundles yesterday afternoon, and so was a good shepherd for a rainy day.

Wheat harvest has progressed rather slowly this year, owing to a tendency among farmers to do their work without hiring much help. The low price of wool and other commodities has had a dampening effect, and wages have fallen, good men offering to work for one dollar per day, a thing which I have not known since I have been in business (over 13 years).

I have been much interested in A. C. G.'s statement about the 30-acre summer fallow and think his theory right. My practice has been to plow, summer fallow just before haying, and harrow and roll as soon as possible; after harvest would cultivate with two horse cultivator, harrow and drill. In this way have raised my best crops. But last year was an exception: I plowed 35 acres just before haying as usual—the ground being so hard as to require three horses and a new point per day—and treated the remainder of the season the same as usual. I was disappointed, however, my oat stubble being the best of the two from the time it came up until harvest, and I, like A. C. G., can account for it in no other way than that the hot sun and drought burned the soil. I believe it would have paid big to have plowed a second time. I do not, however, lay this down as a fixed rule. Nine years ago I plowed a hay stubble field (15 acres) just after harvest. The ground was dry and hard, requiring a three-horse team. This field gave only a half a crop. We farmers have to study both the wind and weather, and conditions of soil, and even then we will miss.

THE Island of Jersey is not a very large one, but it is blessed with a very productive soil and a genial climate. Its agriculturists are, or should be, happy for their returns average higher than any others in the world. The average return of crops in the Island is nearly \$53 per acre—say between \$250 and \$300. According to *London Truth* there are 6,335 acres under potatoes, which last year produced \$455,391. Tomatoes to the value of \$8,000 were grown, and nearly \$3,000 worth of pears, although the fruit season was a very bad one. One hundred and twelve tons of grapes were despatched to the London market, which sold for \$18,000. The great specialty of Jersey cultivation is now the production of early potatoes, the growing of which is costly, averaging nearly \$45 per acre. As much as \$24 per ton has been obtained for these potatoes at the opening of the season. One hundred and eighty-three acres are exclusively devoted to fruit, and 175 acres to salads and vegetables.

AND now the telegraph brings news of serious damage to the corn crop of Central and Western Kansas by drought and the prevalence of extremely hot weather. Hot, dry winds have prevailed for a number of

days, and corn is shriveling up under their influence. No rain has fallen since June 22 in some sections of the State. The promise of the crop heretofore was excellent.

A GREAT AMERICAN INDUSTRY.

Home is not a bad place in these hot days of midsummer, but one cannot always stay at home, nor is it desirable for many reasons, so we like all the rest take an occasional trip for business and pleasure combined. Recently we found ourselves in "Hoosierdom" at South Bend, the great workshop of the State, and although not our first or second visit by any means, we found just as much to interest us as ever. We cannot speak of all the industries of that thriving, growing manufacturing city which are many and varied, but must content ourselves with a reference to one of the largest—the Oliver Chilled Plow Works. We like to visit this immense establishment and always feel at home there, whether bothering the busy office force with our sage remarks, or wandering around in the vast acreage which constitutes the workshops, noting the additions, improvements and new things generally. A distinguished United States Senator in a speech not so very long since spoke of the Oliver Chilled Plow as "an agent of civilization," and when we think of the large number of these plows going to almost all parts of the globe, we are quite ready to agree with him. Passing through the shipping warehouse, we saw plows being prepared for shipment to Great Britain, Mexico, South America, Australia and other foreign countries, to say nothing of those destined for the United States, and we concluded that the whole country had a right to be proud of this great American enterprise. The works have grown wonderfully, and the addition this year of a new wood-working shop 100x250 feet in size does not make them any smaller. Of course the readers of the FARMER know all about the Oliver Chilled plow, for Michigan farmers are progressive and the best is none too good for them. Among the many new things to which our attention was called was "Oliver's Patent Slip Nose Share" and slip point, which is a great improvement in the way of a saving device, and already very popular. Users of the Oliver plows are assured that this share and point can be used on their old plows which have done such faithful service, and they will not have to buy a new plow to get their benefit. Progress seems to be the word at this, the largest plow works in the world, and every department of the works shows it. Mr. James Oliver, the founder and president, is at present in Europe taking a well earned vacation, but will be back early in September to resume his active duties. Visitors are given a courteous welcome and shown through the works in a manner that leaves only pleasant impressions, and our readers who visit South Bend should not forget to call at the Oliver Chilled Plow Works.

THE AMERICAN SHORTHORN HERD-BOOK.

The thirty-third volume of this important work has just been received through the courtesy of Secretary J. H. Pickrell. It is very similar to volume thirty-two in size, and got up in the same style of printing and binding. The pedigrees include all received up to January 20, 1898, so that the records of the Association are now complete. This volume contains the pedigrees of 5,856 bulls, running from No. 84335 to No. 90091, and 9,361 cows, a total of 15,217. This will serve to show the wonderful growth of Shorthorn breeding in America, and the extent to which improved cattle are kept upon the farms of the country. Since March, 1894, eight large volumes of this work have been issued, each containing nearly as many pedigrees as this last one, or about 130,000. Besides these there are a large number of Shorthorns in the hands of farmers, practically thoroughbreds, which are not recorded, and thousands which contain a greater or less admixture of Shorthorn blood through the use of thoroughbred sires. When to this are added the other improved breeds—Herefords, Polled Angus, Galloways, Jerseys, Holsteins-Friesians, Devons and Ayrshires, it will be seen what a wonderful advance in the breeding of good cattle has taken place within the past twenty years. With twenty years more of like progress the scrub will have become a thing of the past. In numbers the Shorthorns keep the lead they have always had in this country, the other improved breeds displacing the scrub rather than the Shorthorn.

This volume is free to members, but they must pay express charges. To non-members the price is \$3, the lowest price at which a volume of this work was ever issued. Secretary Pickrell has arranged with the express companies to carry these volumes at 25 cents per copy, but to get this rate the charges must be paid in advance. Remember this when you are ordering a copy and include express charges.

Cannot Tell Where it Can be Had.

JACKSON, July 7, 1898.

To the Editor of the Michigan Farmer.
Can you inform me where I can purchase 25 bushels of Red Mediterranean wheat of the bearded variety, a pure article fit for seed, also the price of same per bu. delivered on board of cars.

W. M. DODGE.

The Horse.

Dates of Trotting Meetings in Michigan for 1888.

Detroit.....Sept. 4 to 5
Cantonville.....Sept. 18 to 21
Lansing.....Sept. 24 to 28

THE DETROIT MEETING.

The meeting, which opened under such favorable auspices, experienced a bad set back from the rains of Thursday and Friday, which compelled a postponement, to the bitter disappointment of the members of the Driving Club, owners, and hundreds of visitors who had come into the city from the interior. It was finally decided to hold the meeting over until Saturday, and crowd every race possible into that day. The consequence was a fine day's sport, and five well contested races.

The 2:27 race was first called, in which there were only two starters, Daireen, owned by C. F. Moulton, of Lexington, Ky., and Frank Buford, owned by J. M. Johnson, of Nashville, Tenn. The mare Daireen was the favorite, and won in straight heats; time, 2:23, 2:21½, and 2:24. The third heat was a sharp one, the mare only winning by a neck.

Next came the 2:30 pace, in which there were three starters—Budd Doble, Onie D., and Jack Curry. Budd Doble was the favorite in the betting, selling at \$50, the field for \$25. Budd was evidently held up in the first three heats, and then given his head, when he took the next three straight. The fastest time was made in the last heat—2:30½. The following is the summary:

2:30 PACE—PURSE, \$2,000.
Budd Doble.....3 3 2 1 1
Onie D.....2 1 3 3 3
Jack Curry.....1 2 3 3 3
Time—2:30½, 2:30½, 2:30½, 2:30½, 2:30½.

The 2:40 trot called out five starters, namely, Red Light, owned by J. B. Shocke, Louisville, Ky.; Junemont, owned by John Carey, Jackson, Mich.; Rajah, W. H. McCarthy, Lexington, Ky.; So Long, Steele & Chapin, Terre Haute, Ind.; and Lady Helen, W. T. Campbell, Dallas, Texas. In the pools Junemont was the favorite. In scoring for the first heat, all the horses behaved badly, and some of them continued throughout the heat, Junemont and Red Light doing the best trotting. The former won easily in 2:35½.

For the next heat it required 18 attempts before the horses got the word, and all the drivers were assessed \$5 each by President Campau. At the half mile pole Red Light was seen to falter, gradually slacking up and stagger around, finally dropping to the ground. He was dead before the heat was over. Junemont was again the winner in 2:34½. He also captured the next heat and the race easily in 2:24. The following is the summary:

2:40 CLASS—PURSE, \$2,000.
Junemont.....1 1 1
Lady Helen.....2 2 2
Rajah.....3 3 3
So Long.....4 4 4
Red Light.....4 dead.
Time—2:35½, 2:34½, 2:24.

The 2:24 trot had five entries, namely Company, J. H. Goldsmith, Washington, D. C.; Kit Curry, H. D. Kyger, Dartmouth, Ct.; Earl McGreggor, J. A. Graham, Biggsville, Ind.; Black Jack, Morgan P. Ball, Campbell Hall, N. Y.; Shamrock, W. H. McCarthy, Lexington, Ky.; McGreggor and Kit Curry were the favorites, selling about even. The start for the first heat was a bad one, McGreggor on the dead run, and three lengths ahead, which he held to the first turn, when Kit Curry drew up on him, closely followed by Shamrock and Black Jack, the mare finally winning in 2:19½. The next heat was very similar, McGreggor getting off first, Kit Curry closing up and beating him out in 2:20½. She also took the next heat and the race in 2:20. The summary is as follows:

2:24 CLASS—PURSE, \$2,000.
Kit Curry.....1 1 1
Earl McGreggor.....2 2 2
Black Jack.....3 3 3
Shamrock.....4 4 4
Company.....5 5 5
Time—2:19½, 2:20½, 2:20.

You Bet, the pace, was brought out, with running mate, to beat his record of 2:07, for a purse of \$500. After he had got started he paced the mile without a skip, making the circuit in 2:06.

The special race between W. J. Gordon's Guy and G. A. Singler's Prize Wilkes, which had been arranged during the week, with a purse of \$3,000, was next called. The betting was \$35 to \$6 in favor of Wilkes. Guy was unsteady throughout, showing wonderful bursts of speed, but losing much ground through breaks. Wilkes was the winner, Guy taking the first and second heats. Time, 2:17½, 2:16½, 2:17½, 2:24½, 2:20½.

This closed the meeting, and it was nearly eight o'clock before the last heat was over.

FRENCH COACHERS.

To the Editor of the Michigan Farmer.

I have been a good deal interested in Coach horses lately, and have sent to a number of dealers for catalogues, as I wanted to look into their pedigrees, for I am among those who attach a great deal of importance to a pedigree.

Among the French Coaches, I expected to find French blood only, but am surprised to see that the names are most, I quote not all, English. However, I was glad of this, as I thought it would give me an opportunity to examine the pedigrees in the English Stud Book. But when I commenced my trouble began. Would you be kind enough to give me a little assistance; perhaps I have such poor success because I am not used to the business.

Here is an example of what I mean: A certain horse has the following pedigree; it will be seen that his progenitors are all English, although he himself is called French.

Sired by government stallion Vain; dam Lisette, by Glorieux, Vain by Glorieux, out of a daughter of Inkerman; he by Jericho, out of a daughter of Al; he by Young Rattier, out of a daughter of Cleveland.

Jericho by Imperious, out of a daughter of Voltare; he by Imperious out of a daughter of Pilot; he by Octavius (English thoroughbred).

Imperious, by Young Rattier, out of a daughter of Voltare, he by Eclipse (English thoroughbred).

Young Rattier, he by Rattier out of a snip mare (English thoroughbred).

Born by Captain Candid, out of Helene,

by Eastham; he by Sir Oliver, out of Cow-slip by Alexander.

Captain Candid by Cerberus, out of Mondane, by Pot-8-0.

This is as far as I need go to illustrate the difficulty, which is right here: Eclipse, I see by the Stud Book, lived 88 years ago, and Pot-8-0 111 years ago; yet they are said to be progenitors of Forester, foaled in 1888; there are about three generations between him and Eclipse, and about six generations to Pot-8-0. This great length of time can be accounted for only by supposing that horses of former days lived longer than ours do now. But an instance of still greater longevity is noticed in the case of Rattier, whose name occurs in the second generation, and again in the fifteenth generation.

It may be that the Frenchmen have made a mistake when they undertake to handle English names, but if this is so, we cannot tell what they have succeeded in getting right.

The pedigree given above is a wonderful compound of nonsense. There is neither head nor tail to it, and the rapid manner in which it gets back to those noted English thoroughbreds, Eclipse and Pot-8-0, is one of the singular points in it. There is no doubt in my mind that the French Coachers, as he is termed, is largely of English thoroughbred blood. The thoroughbred is the horse which is always depended upon to produce a class of horses of the finest proportions, the most graceful form, and that style and elegance wanted where the horse is to be used for such purposes as are the French Coachers and the English Cleveland Bay. So far as these two breeds are concerned, both are founded upon the thoroughbred. Such a pedigree as the one referred to by our correspondent is simply a humbug. The easy manner in which the horse traces back a hundred years to noted English racers, and the fact that the breeding rests entirely upon the say-so of the man who bred him in France, and tradition—there being no stud-book for the breed—makes the wild statements indulged in simply ridiculous. Understand this, however, these Coachers may prove excellent sires; they are elegant looking horses and show good breeding in every line, but it is the thoroughbred to which they are indebted for the characteristics which make them valuable. But as to accepting such pedigrees as this one we must be excused; and any one posted in the history of the English thoroughbred, and especially of the several horses referred to in the above pedigree, will laugh at the crudeness and lack of knowledge evinced by the party who is responsible for it.

Another Good One from Masterlode.

Dunton's Spirit of the Turf has the following notice of Plush, a Masterlode, who is said to be able to beat 2:20:

"Plush seems to be pretty good goods this season, and calls up several old incidents upon the turf. The dam of Plush is Velvetene 2:26, and her dam was the dam of Patchen, sire of the chestnut gelding of that name, record 2:15½. A good many years ago when Harvey Clark had the noted trotter Sleepy John, his father-in-law, Mr. Spees, owned a filly which he sent to Mr. Clark to have trained. Her toes were long as any colts are which have not been pared off, and when started up she went just like a trotter, and so fast that Clark thought he had a trotter right away. But after her hoofs were pared off, and her toes shortened, she couldn't go a bit. It is too long a story to relate here, but it was at last discovered that the filly that was afterwards named Velvetene, and made a record of 2:26, was put to breeding; and now her daughter Plush trots a first heat in 2:23, and a fourth in 2:24½, and her limit of speed has not yet been reached. She, like Flossie G., is another feather in the cap of 'thoroughbred blood in trotters.' Mr. John Spees, of Winthrop, Iowa, owned the colt Patchen, nearly or quite thoroughbred; he also owned a filly by the imported horse King of Cymru; dam by the thoroughbred horse Joe Printer. This colt and filly were coupled and the produce was the mare Velvetene. Velvetene was bred to Masterlode and the produce is Plush, who can beat 2:20."

Common Sense Breeding.

"Common Sense in Horse Breeding" was the subject of a paper by Mr. James Wood, of Mount Kisco, at the Syracuse Farmers' Institute. He spoke of the horses raised in New York as being better than those raised on the prairies of the west, as they have better feed and more endurance. Over 14,000 die in New York City every year and as many more are used up and sent to the country. Cars will soon be propelled by electricity, but the better class of horses will always be in demand. After speaking at some length upon the superior methods of the American trotting horse and the good that had resulted from his breeding, he told the story of the young farmer training his promising colt. After spending \$500 or more for sulky, shoeing, care, etc., to say nothing about loss to the farm and moral effects on the boy, the four or five-year-old colt would often have to be sold for from \$150 to \$400—nominal price \$1,500. Why is it that a man, otherwise honest, can't tell the truth about a horse? The demand for trotting horses is limited. The raising of coaches is attended with some risk; but a good draft horse can always be sold for his value. Soundness of feet, levelness of head, rapidity of walk are to be preferred in a draft horse, regardless of breed.

The mare should be as nearly as possible what we want the colt to be. The stallion should be somewhat closer built than the mare. "Short back and long belly" is a good old rule.

"I prefer fall foals. They may suck the mare in the winter and be weaned on grass in the spring. Colts should be early taught to eat bran and oats and should be fed twice each day. Corn meal should never be fed them. Keep the colt growing. It takes longer and costs more to make up for a pound of loss than it does to add five pounds of gain under favorable conditions. Groom the colts every day with a common stable broom, and thus accustom them to be handled. My colts, naturally high strung, will stand and not be alarmed if almost anything be banged about their heels. Every colt should be broken to the saddle. Some time in his life some one will want to ride him. Drive in deep snow to secure proper walking gait."

Superphosphate on Wheat.

W. I. Chamberlain, in the *Country Gentleman*, says: "My wheat is a marvel to me. Last fall the weather, at seeding time, was very dry, and wheat got a bad start; the winter and spring were severe, and there will be, in the opinion of the best judges, not over 55 or 60 per cent. of a full crop in Ohio. The field on which I sowed 25 acres was chiefly an old half-brain pasture, that I have been slowly reclaiming and bringing loose and mellow. I am not doing ringing the praise of this, the most profitable farm crop I ever raised. I invariably endeavor to follow it up with something else for a second crop, even after the ripe grain is cut, planting on the stubble such things as late sweet corn, beets, cabbage, etc.

I will say in this connection that Brother Mason does a good thing when he thus grows white beans. The charm of raising these crops after rye comes in right here. Nothing can equal this for keeping down weeds and subduing foul ground. I think I do not exaggerate when I say that it is not half the labor to cultivate these crops that it is in the usual way. Let us briefly consider what we thus gain by saving one-half the labor, especially where land is scarce and we are compelled to make the most of it. Suppose a crop ordinarily costs \$30 per acre and we raise \$30 worth of truck, where is the profit? Then suppose the same value in products is raised on rye

Horse Gossip.

The famous pacing mare Buffalo Girl 2:12½, has foaled a bay colt by Jerome Bdy 2:16½, at the Jovett Farm. W. B. McDonald, who owns the colt, has named him Eddy Mae.

This horse Red Light, which dropped on the Detroit track in the 2:40 trot, was valued by his owner at \$10,000. When disease was the cause of his death. He was entered through the Grand Circuit.

Armoah, which won the race at Petaluma, Cal., on the 4th inst., in 2:25½, 2:24½, 2:25½, is the sixth of Electioneer's get to enter the 2:30 list this season. His dam is Mamie C., a thoroughbred daughter of imported Heroines.

Horses are rather uncertain property to invest in. Some time ago Fred Groves, of East Saginaw, paid Isaac Bearinger \$500 for Whitebird, a promising trotting mare. This week the animal died of inflammation of the lungs.

In the Excelsior Stakes at Saratoga, N. Y., on Tuesday last, Kingston won easily against Terra Cotta and Elquer. The distance was a mile and a quarter, and the time 2:05½. The Chicago Stable, which owns Terra Cotta, is said to have lost \$3,000 on him.

At Cleveland, in the free-for-all pace, Arrow won in straight heats, the time being 2:15½, 2:14½, and 2:13½. Mike Wilkes was distanced in the first heat, Jewett was second and Gossip Jr. third. Right horses started. It is clear that Arrow out-classes all the pacers now on the turf except Johnston.

The telegraph dispatches announce that a match race for \$2,000 between Belle Hamlin and Gossip Jr. has been arranged to take place during the Grand Circuit races at Buffalo. These big matches, however, generally end in a failure, the race never coming off. They are frequently resorted to as an advertising dodge.

The Michigan horse Junemont, who has been one of the sensations of the season, was entered in the 2:20 class at Cleveland, but the pace was too fast for him. He got fourth place, however, in a field of eight, the old veteran, Deck Wright, being last. The time reported was 2:15½, 2:14½, 2:20, 2:20½. Governor Hill was the winner.

In reply to an inquiry by a correspondent, we reply that the fastest mile ever run in America was by Ten Brook, at Lexington, Ky., May 24, 1887. The official time was 1:39½. The English do not report the time in their races, so that the time made by Flying Childers, Saunterer and English Kelpie is unknown. The figures you give are merely estimates.

The Cleveland meeting of the Grand Trotting Circuit opened on Monday. The classes were well filled, and many new horses were among the contestants in the slower classes. Budd Doble, the horse which won the 2:25 pace in Detroit, was nowhere at Cleveland. The winner in that class was Bessemer, a brown stallion, who took the race in straight heats; time, 2:15, 2:16½, 2:15. There were 11 starters.

The sale at auction of the famous young trotting stallion Bell Boy, was one of the events of the present week. The sale was held at Lexington, Ky., on Tuesday last, and was attended by horsemen from all parts of the country. Mr. J. C. Clark, of Elmira, N. Y., started the sale with a bid of \$20,000, and was followed by Mr. C. C. Seaman, of San Diego, California, with one of \$21,000. These two were the only bidders, and when \$40,100 was bid Mr. Clark quit. Mr. Seaman bid \$50,000, which is one of the highest prices ever paid for a horse in the world. It will be remembered that Bell Boy was sold by S. A. Browne & Co., of Baltimore, for \$30,000. The purchasers made a good thing, as they get an advance of \$20,000 for keeping the horse a few months.

The method of handling and developing youngsters on Senator Stanford's famous Palo Alto ranch, as described by an exchange, is as follows: "The foal is weaned at five months. Then he is broken for the halter and turned into the field, sheltered at night, and fed twice a day on boiled and ground food, all he can eat. This is continued until eight months old, and then they begin to work him on one of the miniature tracks. He is kept at this until he is twelve or thirteen months old, and then broken to skeleton work alongside an old horse. Those that it seems desirable to keep on training are continued in exercise; the others are turned out to pasture. In the training the ordinary rule for all ages is short distances, brush and work every day. Good colts are entered almost everywhere, and when the time approaches they are tried for long distances. Speed and the possibilities are developed without using up all the reserve power. The colts and fillies run together until they are seven or eight months old; after that the males are kept apart. When they are weaned two colts or two fillies are put in one stall until they are eleven to thirteen months old; then they get separate stalls."

The correct way is to buy goods from the manufacturer when possible. The Elkhart Carriage and Harness Co., of Elkhart, Indiana, have no agents. They make first-class goods, ship anywhere, privilege to examine. See advertisement.

The Farm.

Superphosphate on Wheat.

W. I. Chamberlain, in the *Country Gentleman*, says: "My wheat is a marvel to me. Last fall the weather, at seeding time, was very dry, and wheat got a bad start; the winter and spring were severe, and there will be, in the opinion of the best judges, not over 55 or 60 per cent. of a full crop in Ohio. The field on which I sowed 25 acres was chiefly an old half-brain pasture, that I have been slowly reclaiming and bringing loose and mellow. I am not doing ringing the praise of this, the most profitable farm crop I ever raised. I invariably endeavor to follow it up with something else for a second crop, even after the ripe grain is cut, planting on the stubble such things as late sweet corn, beets, cabbage, etc.

I will say in this connection that Brother Mason does a good thing when he thus grows white beans. The charm of raising these crops after rye comes in right here. Nothing can equal this for keeping down weeds and subduing foul ground. I think I do not exaggerate when I say that it is not half the labor to cultivate these crops that it is in the usual way. Let us briefly consider what we thus gain by saving one-half the labor, especially where land is scarce and we are compelled to make the most of it. Suppose a crop ordinarily costs \$30 per acre and we raise \$30 worth of truck, where is the profit? Then suppose the same value in products is raised on rye

without it. I used three and one-half tons—300 pounds per acre.

After several careful trials I find that a good superphosphate does my wheat on clayey soil more good than pure bone meal, for ton. But used high grade ammoniated goods, a brand that for eight years has got a high analysis from our Ohio State chemist. It is the Forest City brand, made by the Cleveland Dryer Company. Other brands, by other makers, are good, but no one should buy except on guaranteed analysis, and comparison of valuations, as made out by his State chemist or inspector of fertilizers.

An Unexpected Result.

Farmers not infrequently meet with results that are of such a nature as to cause not only disappointment but great mortification. We have recently marked a case of this kind when a fine field had been reclaimed under a bush pasture, had been brought under careful cultivation, highly manured, and had produced excellent cultivated crops. One year ago last spring the field was sowed with oats, and an average crop secured, although attacked slightly with rust. Last fall, to secure a better seedling, the field was again plowed and dressed with manure and seeded to grass, which, up to the commencement of winter, presented an appearance of great excellence. The grass started last spring, but was soon overrun by sorrel, which continued to grow to the great disadvantage of the hay crop, and to such an extent, that at the middle of July, the grass upon the lot would hardly pay for mowing. The owner, very properly, was so thoroughly disgusted with the complete failure of his severe labor to make a beautiful field that he expressed a wish that it would sink forever from his sight. Now here would seem to be a case for investigation by experiment stations. It is very evident that there was some element in the soil that was injurious to grass growth. Our impression is that the soil was too cold, and is sometimes said, sour. We should like to see the field treated to a liberal dressing of lime, which we firmly believe would greatly improve it, or if plenty of horse manure was at hand, we believe a bountiful dressing of that would also bring about a very decided and favorable change. Such fields are the very places where experimental work should be undertaken, although it is not always pleasant to carry on too much of it at a decided loss.—*Germanovon Tale, graph.*

Simple Rules for Butter-Making. Rinse, in cold water, all dairy utensils to be used, such as churn, butter worker, wooden butter hands, etc. Now scald with hot water and rinse again with cold. Always use a thermometer. The churn and cream to be at a temperature of 50 degrees in 55 degrees in summer, and 60 degrees in winter. Ventilate the churn freely and frequently during churning, until no air rushes out when the vent peg is taken out. Churn at 40 to 45 revolution per minute. Stop churning immediately the butter comes. This can be ascertained by the sound; if in doubt, look.

The butter should now be like grains of mustard seed. Draw off the buttermilk, and wash the butter in the churn with plenty of cold water. Turn the churn two or three times very gently, then draw off the water and repeat the process until the water drawn off is quite clear and free from buttermilk. Make a strong brine and pour into the churn through a hair sieve. Wash the butter thoroughly and draw off brine; take the butter out of the churn and put it on the butter-worker, which use until every drop of buttermilk is pressed out of the butter.

N. B.—Never touch the butter with your hands. [Issued to the press of Great Britain with the sanction of the Dairy Committee of the Royal Agricultural Society of England.]

Rye.

A correspondent of the *Germanovon Telegraph* says: Rye is a crop that is not half appreciated. When farmers work on such crops as they think will pay the most direct profits, without looking ahead for future results, they thus pursue that shortsighted policy which one too often sees. The benefit of growing rye is of just this kind; the results are of a permanent rather than of an immediate nature. The amount of money that can be made from selling the grain for making whiskey or other purposes should not enter into the consideration. Rye is an excellent feed when ground and mixed with something not so rich. The first desirable feature connected with rye is that the work of sowing it has to be done during a comparatively leisure time and when the ground is in good condition for working; then the seed costs but little, and it can be sown at no cost at all for work by sowing it in the corn field at the last working. A man can ride on horseback and sow rye over the tops of his corn.

It is not necessary to sow rye before the middle of September, except when sown for pasture, which is doubtless the best use to which it can be put. The next best use for rye, I think, is in its value as a fertilizer if turned under while green. I have also mowed rye for hay, and plowed up the same ground early in June for a crop of almost anything I might want to plant, and although the stubble does not furnish much manure, it renders clay soil remarkably loose and mellow. I am not doing ringing the praise of this, the most profitable farm crop I ever raised. I invariably endeavor to follow it up with something else for a second crop, even after the ripe grain is cut, planting on the stubble such things as late sweet corn, beets, cabbage, etc.

I will say in this connection that Brother Mason does a good thing when he thus grows white beans. The charm of raising these crops after rye comes in right here. Nothing can equal this for keeping down weeds and subduing foul ground. I think I do not exaggerate when I say that it is not half the labor to cultivate these crops that it is in the usual way. Let us briefly consider what we thus gain by saving one-half the labor, especially where land is scarce and we are compelled to make the most of it. Suppose a crop ordinarily costs \$30 per acre and we raise \$30 worth of truck, where is the profit? Then suppose the same value in products is raised on rye

without it. I used three and one-half tons—300 pounds per acre.

After several careful trials I find that a good superphosphate does my wheat on clayey soil more good than pure bone meal, for ton. But used high grade ammoniated goods, a brand that for eight years has got a high analysis from our Ohio State chemist. It is the Forest City brand, made by the Cleveland Dryer Company. Other brands, by other makers, are good, but no one should buy except on guaranteed analysis, and comparison of valuations, as made out by his State chemist or inspector of fertilizers.

An Unexpected Result. Farmers not infrequently meet with results that are of such a nature as to cause not only disappointment but great mortification. We have recently marked a case of this kind when a fine field had been reclaimed under a bush pasture, had been brought under careful cultivation, highly manured, and had produced excellent cultivated crops. One year ago last spring the field was sowed with oats, and an average crop secured, although attacked slightly with rust. Last fall, to secure a better seedling, the field was again plowed and dressed with manure and seeded to grass, which, up to the commencement of winter, presented an appearance of great excellence. The grass started last spring, but was soon overrun by sorrel, which continued to grow to the great disadvantage of the hay crop, and to such an extent, that at the middle of July, the grass upon the lot would hardly pay for mowing. The owner, very properly, was so thoroughly disgusted with the complete failure of his severe labor to make a beautiful field that he expressed a wish that it would sink forever from his sight. Now here would seem to be a case for investigation by experiment stations. It is very evident that there was some element in the soil that was injurious to grass growth. Our impression is that the soil was too cold, and is sometimes said, sour. We should like to see the field treated to a liberal dressing of lime, which we firmly believe would greatly improve it, or if plenty of horse manure was at hand, we believe a bountiful dressing of that would also bring about a very decided and favorable change. Such fields are the very places where experimental work should be undertaken, although it is not always pleasant to carry on too much of it at a decided loss.—*Germanovon Tale, graph.*

Simple Rules for Butter-Making. Rinse, in cold water, all dairy utensils to be used, such as churn, butter worker, wooden butter hands, etc. Now scald with hot water and rinse again with cold. Always use a thermometer. The churn and cream to be at a temperature of 50 degrees in 55 degrees in summer, and 60 degrees in winter. Ventilate the churn freely and frequently during churning, until no air rushes out when the vent peg is taken out. Churn at 40 to 45 revolution per minute. Stop churning immediately the butter comes. This can be ascertained by the sound; if in doubt, look.

The butter should now be like grains of mustard seed. Draw off the buttermilk, and wash the butter in the churn with plenty of cold water. Turn the churn two or three times very gently, then draw off the water and repeat the process until the water drawn off is quite clear and free from buttermilk. Make a strong brine and pour into the churn through a hair sieve. Wash the butter thoroughly and draw off brine; take the butter out of the churn and put it on the butter-worker, which use until every drop of buttermilk is pressed out of the butter.

N. B.—Never touch the butter with your hands. [Issued to the press of Great Britain with the sanction of the Dairy Committee of the Royal Agricultural Society of England.]

stubble at an expense of \$15 in labor, we have a plain case of 100 per cent. of profit, to say nothing about the value of the rye in one case and the misfortune of a piece of ground foul with weed seed as a future pest on the other hand. The most profitable crop to follow after rye I consider to be sweet corn drilled for fodder, since this needs no cultivation.

Agricultural Items.

Twenty-seven hundred sows were built in Great Britain last year.

Sweet corn fodder is one of the best of feeds for horses and milch cows.

Give the swine fresh clover or grass; provide them also with plenty of broken charcoal.

A field of 120 acres of winter wheat near Bowling Green, Ky., yielded 3,088 bushels, an average of 25½ bushels per acre.

The hay crop of the United States has varied from thirty-two million to forty-nine million tons during the last eight years.

Washington Territory must be a great country for potatoes. A resident of King County raised 8,000 bushels on 12 acres of virgin soil, 600 bushels to the acre.

W. F. Brown says one pound of turnip seed is quite enough for an acre of land. In sowing use only the thumb and forefinger; then the stand will not be too thick.

Not far from one million tons of wheat straw are annually burned in Missouri "to get rid of it." Soon we shall hear that the soil of that State is becoming exhausted.

A sheet of heavy unleached cotton, large enough to cover the bed of the hay-rack, will catch not a little shelled grain during the drawing-in process, more than enough to pay for itself the first season.

In the vicinity of Montreal the depredations of the sparrows are so great that farmers are importing the municipalities to offer a price of ten cents for every dozen of sparrows' heads. The birds are more destructive than any insect pests which prey on the crops.

It is a singular fact that out of 12,581,000 pounds of butter exported from this country, 936,370 pounds should go to Denmark, which is one of the great butter-producing countries of Europe, which annually exports thousands of pounds. The question is, What use is made of it?

Vermont is the only one of the eastern States that raises as many beans as it consumes. Ten per cent. of those used in Boston come from Canada. New England raises about 100,000 bushels of beans and boys 500,000. Seventy per cent. of the beans brought to Boston from the States come from Western New York.

W. I. Chamberlain tells Ohio farmers that he used 3½ tons of superphosphate, 300 lbs. to the acre, on his wheat land, and is sure each ton of it will give him 100 bushels of wheat, and thereby from the benefit to the clover and timothy seeding. Still he advises farmers to experiment with these manures before going extensively into their use.

A Wisconsin farmer who raises swine quite extensively, says swine are no more susceptible to disease than other classes of stock, but their constitutional vigor has been lowered by breeding from immature stock, and by unsanitary conditions where they are kept in large numbers. He says that in Wisconsin the income from thoroughbred swine exceeds that from thoroughbred cattle, sheep and wool combined.

Save the net earnings of a whole season's work by buying The Aultman & Taylor Company, Thresher, Engine or Saw Mill directly from them. You get the middleman's commission directly off the purchase price. Write to them at Mansfield, Ohio, for particulars.

The Poultry Yard.

An Egg Shell.

The shell of all eggs is studded with small orifices, which are the means of absorption and exhalation by which the little animal in the egg respires. On this knowledge are grounded all the methods of preserving the egg by closing the pores. These pores are more or less visible, according to the species of egg. They are very apparent in the egg of the ostrich, and scarcely visible to the naked eye in other species, but their functions are no less active. Many eggs are laid naked, dry and smooth; others are impregnated with a greasy, glutinous substance. The latter are chiefly those of sea birds, or those which live in moist localities. This glutinous coating is doubtless intended to preserve the eggs from the water, or to maintain the degree of heat necessary to preserve life. Sometimes there are soft eggs laid entirely without shells, or without the albuminous inner membrane. This occurs chiefly in hens that are too fat, or have been over stimulated, or have not been able to obtain calcareous substances with their food. Egg shell is much used in medical preparations. When calcined at a low red heat it affords a very pure form of carbonate of lime.

Risks at Exhibitions.

Henry Hales, in the *Rural New Yorker*, says: "No class of animals can be more susceptible to colds caused by draughts, change of coops, transportation, moisture, etc., than poultry. Few people realize this, fact sufficiently. No one pays more dearly for this than exhibitors at poultry shows. After great care in getting the birds into good condition, and giving them all the attention possible, there is great risk in sending them away to exhibit, especially as these shows are generally late in fall or early in winter. If one takes the trouble to follow the birds en route, it is soon seen what changes they are exposed to, first on railroad platforms, then perhaps into hot, close express cars; from that into a wagon. If this is not open on top it is generally open at both ends. Then they are carried through wind, cold streets; then in the exhibition building, often waiting in their close packages hours before they can receive attention, and be put in their respective places on the benches. Next they are subjected to a change of food; they are

NEW ADVERTISEMENTS.

ELKHART CARRIAGE & HARNESS MANUFACTURING CO.
No. 1, Farm Road, Elkhart, Ind.
\$25.00
We make a full line of
HARNESS
Our Harnesses are All No. 1 Oak
Leather, single \$10 to \$20.
64 page Illustrated Catalogue
Inquire, Free. Address
W. B. PRATT, Secretary,
ELKHART, INDIANA.

BRIGGS' PIANOS
"A. C. BRIGGS & CO."
MANUFACTURERS
"GRAND SQUARE" & "UPRIGHT"

Horticultural.

A Walk Through the Raspberries.

I have just returned from a tour of inspection among the raspberries and note some things that will have to be done at once. A few plants of those set this spring have died and more must be set in, as vacant places look bad, give the weeds a chance to grow and the wind to blow the rest over, but worst of all, it is hard work to get the plants to grow and fill up if set in next season. You can transplant raspberries, if taken up carefully, when the new shoots are two feet high. We always allow them to get a good start before setting in the spring. The new growth is now 18 inches high and will be topped off at once. We use a sharp butcher knife or corn-cutter, and a swift stroke. Many growers let them grow too high. They do not branch out properly and the wind and snow break them down. By pruning early they branch out so as to resemble trees, are well balanced, and most important of all have more capacity for fruit bearing from increased surface. The second pruning consists of cutting off ends of side shoots in the bend, which causes them to send out shoots in all directions, but if you wish to raise plants omit the last pruning. A few plants show symptoms of rust and will be dug up and burned without delay. I know of no other remedy, and if permitted to remain will ruin the patch. Plants in a feeble condition or injured by severe cold are most likely to be attacked. The symptoms are reddish dots on leaves and a large number of thornless leaves. Some weeds are likely to seed before picking is over and must be pulled by hand or cut with a weed-cutter. The new patch set this spring contains Ohio for evaporating and Greys for market. They are getting weedy and will receive a thorough cultivation with the Planet Jr. cultivator and have the weeds cut off the hills. A little dirt will also be heaped around them and a cabbage plant set in each space one way. They will take care of themselves, except pruning, the rest of the season.

After taking up all the red raspberry sets we need, they are still too thick, and will be thinned out to one cane to the foot and tops pinched off, when they will branch out like the black ones.

I would not cultivate an old plantation at all, but keep it heavily mulched with swale grass between the rows. One patch so treated has been the most profitable one of all. Mulching is cheaper than cultivation to keep down weeds. Speaking of weeds, there are enough going to seed in the road and corners of fences in this county to seed the State. By-and-by, in August, after they have ripened their seed and farmers have a little time, they will have a spasm of virtue and cut down the old stalks. It would pay a huge per cent if they would cut them now while in blossom.—*Phila. Press.*

Drainage of the Orchard.

Orchardists are frequently perplexed by the opposing views or opinions set forth on many subjects by different persons who have had experience in fruit-growing. It would be a pleasing matter if no differences existed in the care of orchards or any branch of farm work, but so long as climates and soils vary, and modes of cultivation and treatment are rendered variable by such conditions, differences must exist. The thoughtful farmer or fruit-grower should study all divergent views, and then try to reach a conclusion as to what mode suits his location or soil.

Drainage is an important subject, but its importance doubtless is the cause of many plans being practiced or endorsed by orchardists. In order to give this subject the attention which it deserves the views of prominent orchardists are set forth, and any apparent contradictions that may be given should be attributed to the surroundings of the orchard rather than to the whims of their owners.

Mr. Beadle believes in thoroughly under-draining the ground before the orchard is planted. If the subsoil is not naturally gravelly or porous enough for the water to soak through. The depth of the drain would depend somewhat on the tile, but should be five feet. His experience convinces him that it is not the water which comes from the top that causes trouble, but that which comes from below. By sinking the drains five feet all chances of their being injured by frost are escaped, and the tiles may not be placed so close together. If before going down the five feet a clay soil is reached that is impervious to water, or hard sand, it is scarcely worth while going deeper. The soil in the vicinity where Mr. Beadle resides is mostly five or six feet deep before hard pan is reached, and he claims the best results from his mode of drainage. He says that by draining before planting the danger of injury to the trees is avoided that would follow if planting proceeded drainage.

Mr. Beadle endorses Mr. Beadle's plan of deep drainage. The principle of it was set forth by English engineers, who lay down the rule that the benefits of drainage only extend to the square of the depth each way. That is to say, if you go three feet with a drain you only drain nine feet of land on each side of that drain. A three feet drain, therefore, would only drain a strip eighteen feet wide. The idea prevails among most people, said Mr. Beadle, that the object of under-draining is to get rid of the surface water; that if the surface water is to get off it is all right, and nothing more is required. Now, as a matter of fact, not one drop of water should run off the surface, it must all run through the soil; for the rain contains a large quantity of valuable manure, which should run into the soil, and if land is properly drained it takes in the summer rain, and the land is warmed; because the temperature of the rainfall is much higher than that of the soil itself. The rain percolating through the soil warms it. Then again, frost will not accumulate or go down nearly so deep in well-drained soil as in soil that is not drained. In our country, where we have considerable snow, at any time during the winter you can run a stick down into ground that has been well drained. There is never any frost after we get a foot and a half or two feet of snow. The frost only gets down where the soil is wet.

Mr. White thought the question of deep drainage depended so much on the difference in the soil that no hard and fast rule

as to depth can be laid down. He had an orchard which he was sure would not be benefited by going down five feet. It was hard pan and was never wet. He had been twenty feet through it, and never a drop of water; it did not seem to penetrate. He therefore thought it was a matter in which everyone should use his own judgment to a great extent.

Mr. Morton said:—In Scotland, where aid is given to draining, some years ago no aid would have been given to any drain under four and a half feet deep; but I have been informed that within the last few years aid has been extended to drains three and a half feet deep. That is because it has been found that this very deep drainage is not adapted to the generality of soils that require improvement by drainage. If there is a substratum of impervious soil near the surface a deep drain would not have as beneficial an effect as one somewhat shallower. I think the generality of our soil would be better drained at a depth of three and a half or four feet than at six feet.

Having given prominence to the opinions held by orchardists regarding drainage, we feel the necessity of a wider treatment of the case, and for that purpose make quotations from Mr. Edward Waseley's "Manual of Drainage," an excellent little book, and one that should be closely read by all farmers and sanitarians:—"Without good drainage it is useless to hope for better times among farmers. In the north and northwest, where the rigors of winter, and sometimes the drought of summer, are left, there is no doubt the effects of drainage on a large scale would ameliorate the climate in winter, and the soil would retain its moisture in summer to a much greater extent, because thoroughly drained land is not only of higher temperature, or warmer in cold weather, but it holds its moisture longer in drought, which generally occurs when evaporation is rapid during summer. It is not uncommon to find the soil light and porous on the surface but the subsoil impervious, and a soil thus constituted is literally baked under a hot sun. A sure indication of impervious subsoil is the growth of aquatic plants in places where the land is so situated that from general indications they should not be there. When walking over pastures in summertime, after a rain, if we feel the land spongy instead of springy to the feet, that land needs drainage. It has a subsoil composed of clay, hard-pan, or other impervious substance, and will be, in either dry or wet weather, next to useless. Such land can never be made, under any system of cultivation, manuring or other operation, fit for husbandry without thorough drainage.—*Toronto Mail.*

Two Foes of the Strawberry.

Miss Cora Dixon, in a paper read before the Kansas State Horticultural Society, said: Among the insect enemies of the strawberry, the white grub is one of the most destructive. It is the larva of the May beetle, June bug or Dor bug, being known by all of these names in different parts of the country. These beetles frequent meadows, pastures and uncultivated fields for the purpose of depositing their eggs in places where their young will be sure of plenty of food and not likely to be disturbed. The grubs live three years before passing through the pupa state and coming forth as beetles. During these three years of constant work upon the roots of plants they do much damage to whatever kind they attack. It is not safe to set strawberries on freshly-plowed soil, but the land should be cultivated at least two seasons in some crop requiring frequent hoeing and plowing before using it for this purpose. There are many other insect enemies of the strawberry, but I shall only mention two of them, the strawberry worm and the leaf-roller. The first mentioned is a small, slender, pale green worm, that attacks the leaves, eating large holes in them, and when at all abundant it soon destroys the entire foliage and, of course, prevents further growth of the plants. This worm is the larva of a small black fly (*Empytus maculatus*). The leaf-roller is a pale green worm, the caterpillar of a handsome moth (*Anchylopera fragariae*). Its plan of action is to roll up the leaf and use it first as a bed, then as food. A solution made of one or two spoonfuls of the dry Paris green or London purple to two or three gallons of water, sprinkled on the plants after fruiting, once or twice a week for three or four weeks, is recommended for their destruction. A better plan, when practicable, I think, is to burn dry straw over the plants, scattering it just thick enough to burn the leaves but not the crowns. The strawberry plantation should not remain upon the same land more than two years—one year is preferable. Insect enemies soon learn that old beds are a safe place for them to deposit their eggs. It is easier to set out a new bed of berries than to clear an old one of weeds, and the newer plantation bears much larger and finer fruit.

Ingenuous Subsoiling.

Judging from my own experience I think that the roots of the vine need to penetrate the subsoil. I am aware that of late it has been recommended and practiced to set out vineyards upon a cheap scale without trenching or subsoiling.

This in my judgment is the chief reason why the vine suffers so much from sporadic diseases. The roots being too near the surface are subjected to all the changes and vicissitudes of climatic conditions, while if set deeper they would receive the protection of a deeper soil against sudden changes.

An experiment that I made a few years ago saves so much of my heavy expense of subsoiling, and has proved so satisfactory, that I can recommend it to vineyard planters. It is so simple, and applicable to all varying conditions, that no one need hesitate about adopting it. I simply plowed and cleaned out trenches in the fall as steep as their sides could be made eight feet apart and 20 inches deep, set the vines in the trenches in the following spring and filled them in again mainly with the plow.

The reason for success in this experiment of fall trenching is found in the action of frost during the winter being enabled to penetrate the subsoil deeper than it could otherwise do through the means of these open trenches, thereby fining and communicating the soil and subsoil and bringing up to the surface some of the lost fertility of past ages. I found to my great surprise that before the frost had gone out of the ground the trenches were deeper or the ridges were higher in the spring than the fall, showing that the frost had penetrated from the

trenches sideways into the soil of the ridges, heaving and loosening it much deeper and refining it as I had never before observed under any other conditions. I found that I had been utilizing the forces of nature to do my work free and far better than I could do it at a great expense myself with teams and subsoil plows.

Subsequently it was shown that as the roots of the vines spread out and grew the feeding roots at the ends gradually rose a little as they approached the centers of the rows, and that occasionally the plow in the subsequent tillage of the vines cut off the ends of a few of these feeding roots, but I could not perceive that this was a serious injury, for new and more branching roots were sent out from the severed ones the next season, and I imagined that it had re-investigated the vines, and caused them to grow more luxuriantly, but I could not express a positive opinion as to this, without more experience and observation.

Another point gained was, that in the spring I did not have to dig holes to set the vines at a busy season of the year. The holes were already dug just the right depth. The fine top soil had fallen in from the sides of the ditches, making the very best possible conditions after sowing a little phosphate, ashes and bone dust in the trench, for the fine subsequent, healthy and vigorous growth obtained, and I found that I could work the soil some two weeks earlier than that untrenched. I actually set the vines while there was yet frost in the ridges, the soil working dry and mellow.—*Philadelphia Gardener.*

Pruning for Fruitfulness.

When an apple or pear orchard has been highly cultivated and manured it is sometimes found to produce a very vigorous wood growth, and a little or no fruit. This has led cultivators to resort to various expedients for producing a fruitful condition, and among these summer pruning, performed between the 15th of June and the 20th of July, has been found somewhat effective. The removal of a portion of the limbs of foliage in winter or spring would result in a more vigorous growth, but at this season the shock checks the circulation and tends to the formation of fruit buds.

Root pruning will also tend to decrease the vigor of a tree, and so induce fruitfulness; this should not be done in the growing season, but rather in the autumn or early winter. Ringing, or removing a ring of bark from a quarter to half an inch wide, in midsummer, is practiced by some, as it stops the descending flow of sap and compels it to produce fruit buds; but the practice is generally condemned. Bending a limb downward, or tying a band tightly about a branch, will sometimes have an equally good effect. We noticed an instance of this in an orchard of a friend, where the children's swing rope had been tied about one of the limbs, and as a result that limb was weighed down with fruit, while the rest of the tree was barren.

We are of the opinion that the cause of so much barrenness in the orchards of some portions of Western Ontario is to be found, not in a too vigorous growth, but rather in a lack of vigor; and that the remedy that is more frequently needed is better care and cultivation, rather than any of the cures mentioned above. Too often the apple or pear orchard is expected to go on year after year producing abundant crops without any attention, unpruned, uncultivated, unmanured, subject to bark lice, canker-worm, borer, web-worm, codling moth, etc.; and then because the acre of orchard does not pay as well as the acre of grain or roots, which has had all the work and all the manure, the owner in disgust resolves upon its total eradication.—*Canadian Horticulturist.*

Dishonest Salesmen.

The London *Horticultural Times* says that unpleasant exposures have recently been made in Covent Garden market by certain large growers who placed letters in the bottom of their baskets of fruit, etc., (with stamped envelopes for reply) asking the buyers to forward the price they paid for the goods. In every case the grower found that the goods had been sold for a higher price than had been remitted by the salesmen. Interviews followed between some of the growers and the salesmen, which were brief and unpleasant. The commission men were compelled to repay every farthing they had taken, and narrowly escaped being prosecuted. Such conduct is diverting the bulk of garden produce to the provincial markets, where, as a rule, the salesmen are of a higher calibre.

Southern California.

The fourth annual report of the Los Angeles Board of Trade contains some interesting statements relative to the fruit products of that region. One of the most abundant products is raisins. The varieties cultivated for this purpose are the Muscat of Alexandria, Sultan, White Corinth and Black Corinth. The last two are not productive enough, and the Sultan is not yet sufficiently tried. The Muscat of Alexandria, producing the Muscatel raisins, is the leading raisin grape of the country. It is found important not to prune the vine closely, and to leave plenty of spurs with buds for producing wood the next year. The grapes are dried in trays in some cases, but may be cured best on the ground on selected spots. Twelve days are sufficient for curing early fruit, but later in the season, sometimes two or three times longer. Southern California shipped last season 1,969 carloads of oranges and lemons, and 281 carloads sold at home and by express, worth \$800,000. A large market is claimed in prospect, as there are now imported into the United States annually about eight million pounds of figs, 57 million pounds of French prunes, four million pounds of almonds, 53 million pounds of raisins, 18 thousand carloads of oranges and lemons, and smaller amounts of other products. It is claimed that California can produce 60 million pounds of prunes, instead of having to import. In the next decade there will be 60 million people, and this report remarks that if those engaged in the fruit industry will eradicate insect pests, take good care of their orchards, and cultivate the very best varieties, they must reap a large reward. Some of the smaller fruits are cultivated with success. Strawberries ripen every month in the year, and in winter have been sold in New York for

\$3 a quart, and before Florida fruit is ripe. Blackberries and raspberries yield well, and currants grow freely in the lowlands. While not enjoying all the privileges of other localities, it is gratifying that Southern California has such rich bounties for the people.

The Vegetable Garden.

For many a month in the year the table of many an industrious country home has rarely any other vegetable than potatoes. Some have tomatoes for a few months, corn for a few weeks, and now and then there may be a dish of Lima beans. We say nothing of the cabbage or a few other kinds in some places, but as a general thing, good vegetables are not the particular attractions of a farmer's table. When we come to meat preparations, pies, puddings, sauces, and all such knick-knacks, the farmer's girls are not behind the rest of the world. But it is not their fault. If it was unreasonable to expect the Israelites to make bricks without straw, it is a worse case here. If the head of the household does not raise the vegetables, how shall the girls cook them? And that they do not raise them is a general complaint and lamentable fact. Even when they are brought to feel that the women will have vegetables, they go to work grudgingly. They must "get the corn ground ready," "put in the oats," or something or another, and can't afford the time to be plowing up the truck patch, or digging up the garden. But the "power behind the throne" insists on it. A little manure is dragged on to some out-of-the-way piece of land, the soil scratched over with the plow, and then with the harrow, and then the women and boys must get along as best they can.

Now, this is not the way the thing is always done; but our readers will bear witness to the fact that they have none of them to go far to find the picture we have drawn. Now, most men like good vegetables, preferring some kinds to others, of course, and the indifference can only be through supposing it costs more to raise them properly than it does.

One of the mistakes of vegetable growing for one's own personal use is to grow more than is required. Too much ground is taken up. Too much labor then has to be given in proportion to the desired result. Vegetables as a rule require a much richer soil than the average of farm crops; but when once they have a deep rich soil, it is wonderful how many a very small piece of ground will produce.—*German-town Telegraph.*

Horticultural Items.

In England strawberry plants are considered at their best when two or three years old, quite the opposite of our American methods, which never take more than the second crop without plowing up, and often but the one crop.

AMERICAN orchardists must soon meet the competition in English markets of apple growers in Australia and Tasmania. The imports of choice apples from these latter points has already increased to such an extent as to affect British fruit-growers.

A CORRESPONDENT of the *Country Gentleman* tried the experiment of wrapping burdock leaves around the stems of cabbage plants to prevent the attacks of the cutworm. The exposed part of the leaves soon withered and dried up, leaving the plants without protection and the cutworms "got in their work." He then returned to his old plan of wrapping the stems in stiff brown paper, which he found a perfect protection.

T. B. TERRY, who is one of the farmers who believes that the best is none too good for the agriculturist, and advocates gardens and small fruits for the home, says his "young folks" took care of a quarter acre of Downing strawberries and sold \$38.57 worth of berries. The family ate their fill of luscious fruit three times a day for 22 days, and it is estimated the home consumption was at least ten bushels, besides five bushels canned for winter use. The berries were sold at \$4 per bushel because they were so large and even.

R. S. COLE, in *Farm and Home*, warns horticulturists not to be in a hurry about pronouncing upon the merits of new fruits. He has grown strawberries for 36 years, and knows no variety can be fairly tested in one season. He remembers how his neighbors plowed under the Wilson and Crescent as worthless after one season's trial, and afterwards paid big prices for plants from others who held on to them. There are so many varied conditions of soil, climate, location, season and modes of culture to which the strawberry is subject in this country, that only through tests are the criterion by which we may judge of the value of a variety upon its first introduction.

THE New Jersey Fruit-Growers' Association have arranged with commission merchants who handle their fruits by which the latter receives eight per cent commission instead of ten. The two per cent saved pays the expenses of the Association. Proof of the effectiveness and value of the Association is the fact that about \$1,200 was collected by it from railroads last season for damages and overcharges. For instance, one carload of strawberries sent to Pittsburgh was neglected by the railroad employees and not re-loaded en route. The berries sold for 25 cents a quart, when the market price was eight. The railroad company made good the loss, amounting to \$415, and the money was in the treasury of the Association in less than sixty days.

If you have made up your mind to buy Hood's Sarsaparilla do not be induced to take any other. Hood's Sarsaparilla is a peculiar medicine, possessing, by virtue of its peculiar combination, proportion and preparation, curative power superior to any other article of the kind.

Apianian.

GIVE US A CHANGE.

Prof. H. M. Wiley, apparently grown profoundly weary of the changes rung upon the "wild life" and "Wiley lie" by the *American Bee Journal* and their iteration by other apicultural journals, has written to several of them a plain, frank, gentlemanly letter explaining how he came to make the statement relative to the adulteration of honey which has got him into such extremely hot water—a statement made upon the authority of an eminent chemist since deceased, and in part at least corroborated

rated by chemical analyses both in this country and Europe. The bee papers have published this letter, which is certainly as much of an *amende honorable* as any man could well make, with comments which are hardly, in our humble judgment, at all called for. The *American Bee Journal* admits that honey has been adulterated, but alleges it is not done now, simply because the price is so low it does not pay. Prof. Wiley's article in the *Popular Science Monthly*, which stirred up such a bees' nest, was written in 1881. Both charge adulteration, but differ in how it is done. It makes little difference to the consumer how he gets his glucose, if get it he must.

Samples of honey from a well known beekeeper were reported after analysis as "apparently adulterated." Further samples were asked for and indignantly refused. Both rogues and honest men can work the "indignation dodge;" it would have been better to have forwarded other samples and stood the test. Yet the *Journal* says "the component parts of honey vary so much that few, if any, can positively determine, even by analysis, the purity thereof." If this be true—and the *Journal* would never fall into these "Wiley ways" it has so often denounced—adulterated and unadulterated seem to stand on an equal chance, and it is a clear case of "great cry and little wool." The *Journal* says honey has been adulterated, and that adulteration is difficult to detect; Prof. Wiley says honey has been adulterated, and chemistry has detected. Either way the public is heartily tired of the unprofitable controversy—which on one side at least, reminds us of the minister's best sermon, which he always preached when he did not wish to write a fresh one—and begs, with due humility, for a change.

How Bees Make Cells.

In *Murray's Magazine* we find the following explanation of the geometrical forms which the cells of the honey comb assume: Recent measurements and observations have tended to dissipate the cell myth, and to show not only that honey comb is far from regular, but that such regularity as it has is due merely to mechanical conditions. Mr. Frank Cheshire tells us in his recent volume, that careful measurements of the finest pieces of comb, built with every advantage for securing regularity, show that so far from every cell being geometrically accurate, it is difficult to find a hexagon presenting errors of less than three or four degrees in its angles. On the other hand there is a growing tendency to accept a modification of Buffon's explanation of the origin of cell structure. Buffon attributed the regularity of the cells to mutual pressure; in illustration whereof he packed a closed vessel with dried peas and filled up the interstices with water. The peas, which were thus caused to swell, assumed, under the pressure which resulted, the form of more or less accurate geometrical figures.

Perhaps a still better illustration of this principle of mutual inter-action is seen in soap-bubbles. If a little soapy water is placed in the bottom of a tumbler and air be blown into the water through a tube until the upper part of the glass is full of bubbles, the hexagonal which these bubbles assume under mutual pressure, and the triangular pyramids at their bases, will be readily seen. Not that these geometrical figures are the same as those which the wax assumes, but they illustrate the principle. For, at the temperature of the hives, the wax, pared thin by the smooth-edged jaws of the workers, has all the plasticity of a fluid membrane. The bee has indeed to avoid the paring away too far, and thus making a hole through the wall. But even here it may be aided by mechanical conditions.

If we take a thin piece of soap and pare away one face with the blade of a pocket knife, we shall soon form a transparent patch where the soap is very thin. But if we continue to pare we do not cut through the soap at this point; but for a time at least, we merely enlarge the area of the transparent patch. The thin film of soap yields at this point, and the stress of the blade falls on thicker and less yielding edges. Some such mechanical yielding of the wax may guide the bee in its work.

NEW ADVERTISEMENTS.

Hood's Sarsaparilla

Is a peculiar medicine, and is carefully prepared by competent pharmacists. The combination and proportion of Sarsaparilla, Dan-delon, Mandrake, Yellow Dock, and other remedial agents is exclusively peculiar to Hood's Sarsaparilla, giving it strength and curative power superior to other preparations. A trial will convince you of its great medicinal value. Hood's Sarsaparilla

Purifies the Blood

creates and sharpens the appetite, stimulates the digestion, and gives strength to every organ of the body. It cures the most severe cases of Scrofula, Salt Rheum, Boils, Pimples, and all other affections caused by impure blood, Dyspepsia, Biliousness, Headache, Kidney and Liver Complaints, Catarrh, Rheumatism, and that extreme tired feeling. Hood's Sarsaparilla has helped me more for catarrh and impure blood than anything else I ever used." A. BALL, Syracuse, N. Y.

Creates an Appetite

"I used Hood's Sarsaparilla to cleanse my blood and tone up my system. It gave me a good appetite and seemed to build me over." E. M. HALE, Lima, Ohio.

"I took Hood's Sarsaparilla for cancerous humors, and it began to act unlike anything else. It cured the humor, and seemed to tone up the whole body and give me new life." J. F. NIXON, Cambridgeport, Mass. Send for book giving statements of cures.

Hood's Sarsaparilla
Sold by all druggists. \$1; six for \$5. Prepared only by C. I. HOOD & CO., Apocothecaries, Lowell, Mass.

100 Doses One Dollar

\$75.00 to \$250.00 A MONTH can be made by agents preferred who can furnish a horse and give their whole time to the business. Spare moments may be profitably employed also. A few vacancies in towns and cities. H. F. JOHNSON & CO., 1099 Main St., Richmond, Va. June 28, 88

WINCHESTER'S

HYPOPHOSPHITE OF LIME AND ODA is a matchless Remedy for Consumption, in every stage of the disease. For Coughs, Weak Lungs, Throat Diseases, Loss of Flesh and Appetite, and every form of General Debility it is an unequalled Specific Remedy. 50¢ per bottle and ONE WINCHESTER'S PREPARATION. \$1 and \$3 per bottle. Sold by Druggists.

WINCHESTER & CO., Chemists, No. 162 William St., New York.

NEW ADVERTISEMENTS.

NEW ADVERTISEMENTS.

Sewing Machines!

ONE-THIRD PRICE!!

THE NEW AND GREATLY IMPROVED HIGH-ARM SINGER

The Finest and Best Made Machine of the Singer Pattern in the market.



HIGH-ARM IMPROVED SINGER.

With each of these machines we furnish one Ruffler, one Tucker, one set Hemmers, one Foot Hemmer, one Sewing Driver, one Wrench, one Oil Can and Oil, one Gauge, one Gauge Thumb-Screw, one extra Tread-Plate, one extra Check-Spring, one paper Needles, six Bobbins, and one Instruction Book. These articles are all included in the price named. Bear in mind that these machines are thoroughly made and of first-class workmanship, and

EVERY MACHINE WARRANTED FOR FIVE YEARS.

These machines furnished to subscribers of the FARMER for

\$18.00!

Which includes also a year's subscription to the paper. There never was a high-arm machine sold before for less than three times this price.

THE LOW-ARM MACHINE

OF THE IMPROVED SINGER PATTERN.



Over 1,500 in Use in this State!

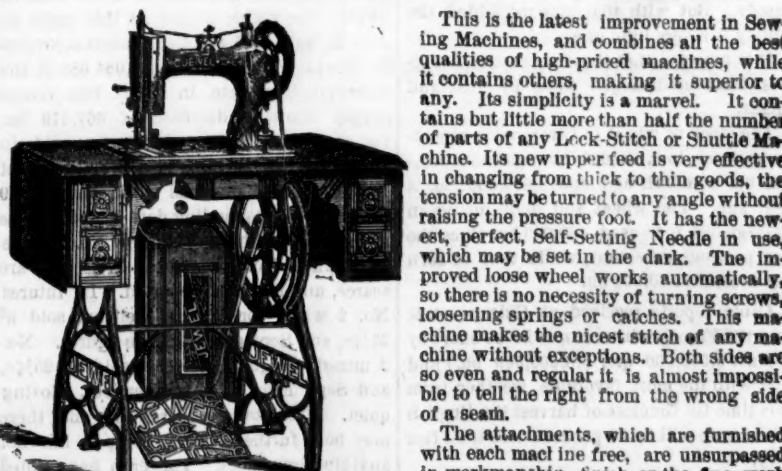
The above represents the Machine which we sell at \$10 and throw in a Year's Subscription to the Farmer. It is very nicely finished, perfect in all respects, and guaranteed to give satisfaction. We are contracting for large quantities and furnishing them to our customers at about cost. Agents' and dealers' profits can be saved and one of the best Machines obtained by ordering from us. A full set of attachments included with each Machine.

THE HIGH-ARM "JEWEL"

ONE OF THE BEST FINISHED AND HANDSOMEST MACHINES MADE.

PRICE, \$21.00.

Which also includes a Year's Subscription to the "Farmer."



This is the latest improvement in Sewing Machines, and combines all the best qualities of high-priced machines, while it contains others, making it superior to any. Its simplicity is a marvel. It contains but little more than half the number of parts of any Lock-Stitch or Shuttle Machine. Its new upper feed is very effective in changing from thick to thin goods, the tension may be turned to any angle without raising the pressure foot. It has the newest, perfect, Self-Setting Needle in use, which may be set in the dark. The improved loose wheel works automatically, so there is no necessity of turning screws, loosening springs or catches. This machine makes the nicest stitch of any machine without exceptions. Both sides are so even and regular it is almost impossible to tell the right from the wrong side of a seam.

The attachments, which are furnished with each machine free, are unsurpassed in workmanship, finish or the way work will do. The instruction book contains a large engraving of each, with full directions for using. The furniture is black walnut, of the style represented above, and very finely finished. In fact, we claim the "Jewel" to be the best made, and to do better and a wider range of work than any machine in the market.

These Machines Guaranteed for Five Years!

Purchaser pays freight, which runs from 65c. to 90c. on each machine, according to location of purchaser.

CASH MUST ACCOMPANY ORDERS.

Samples of these machines can be seen at this office. Address orders to

GIBBONS BROTHERS,

DETROIT, MICH.

*Subscribers remitting money to this office should confer a favor by having their letters registered, or by procuring a money order, otherwise we cannot be responsible for the money.

CHANGES OF ADDRESS
Subscribers wishing the address of the FARMER changed must give the name of the Post-office to which the paper is now being sent as well as the one they wish to have it sent to. In writing for a change of address all that is necessary to say is: Change the address on Michigan Farmer from — Postoffice to — Postoffice. Sign your name in full.



DETROIT, SATURDAY, AUGUST 4, 1888.
This Paper is Entered at the Detroit Post-Office as second class matter.

WHEAT.

The receipts of wheat in this market the past week amounted to 211,335 bu., against 66,321 bu. the previous week, and 311,306 bu. for corresponding week in 1887. Shipments for the week were 78,441 bu. against 16,309 bu. the previous week and 232,794 bu. the corresponding week in 1887. The stocks of wheat now held in this city amount to 236,007 bu., against 129,304 bu. last week, and 478,833 bu. at the corresponding date in 1887. The visible supply of this grain on July 28 was 23,154,996 bu. against 21,644,810 the previous week, and 33,132,228 for the corresponding week in 1887. This shows an increase from the amount reported the previous week of 510,186 bushels. As compared with a year ago the visible supply shows a decrease of 10,977,292 bu.

During the most of the past week the tone of the market was favorable to sellers, but light demands for the export trade, reports of more favorable weather in Great Britain and on the Continent, with the belief that the crop in this country will be somewhat larger than anticipated, have served to weaken the market, and the tendency yesterday was downwards from the opening. No. 1 white is selling nearly even with No. 2, but the latter is in better shape for shipping at present owing to its being harvested earlier. A good deal of the receipts of red wheat come from Indiana. No. 1 white has lost 3c during the week, while No. 2 red has advanced that much. A good deal of the receipts of red wheat only grades No. 3 and 4, and sells at 5c per bu., or six cents below No. 2. For future delivery values are all higher than a week ago, although there was a considerable decline yesterday. Chicago and New York were lower yesterday, while London and Liverpool were quiet and steady.

The following table exhibits the daily closing prices of spot wheat in this market from July 10th to August 3rd, inclusive:

	No. 1.	No. 2.	No. 3.
July 10.....	91	86	82
" 11.....	91	86	82
" 12.....	91	86	82
" 13.....	91	86	82
" 14.....	91	86	82
" 15.....	91	86	82
" 16.....	91	86	82
" 17.....	91	86	82
" 18.....	91	86	82
" 19.....	91	86	82
" 20.....	91	86	82
" 21.....	91	86	82
" 22.....	91	86	82
" 23.....	91	86	82
" 24.....	91	86	82
" 25.....	91	86	82
" 26.....	91	86	82
" 27.....	91	86	82
" 28.....	91	86	82
" 29.....	91	86	82
" 30.....	91	86	82
" 31.....	91	86	82
Aug. 1.....	91	86	82
" 2.....	91	86	82
" 3.....	91	86	82

For No. 2 red the closing prices on the various days each day of the past week were as follows:

	Aug.	Sept.	Oct.	Nov.
Saturday.....	85 1/2	86	86 1/2	87
Sunday.....	85 1/2	86	86 1/2	87
Monday.....	85 1/2	86	86 1/2	87
Tuesday.....	85 1/2	86	86 1/2	87
Wednesday.....	85 1/2	86	86 1/2	87
Thursday.....	85 1/2	86	86 1/2	87
Friday.....	85 1/2	86	86 1/2	87

For No. 1 white the closing prices of the various days each day of the past week were as follows:

	Aug.	Sept.	Oct.	Nov.
Saturday.....	86	86 1/2	87	87 1/2
Sunday.....	86	86 1/2	87	87 1/2
Monday.....	86	86 1/2	87	87 1/2
Tuesday.....	86	86 1/2	87	87 1/2
Wednesday.....	86	86 1/2	87	87 1/2
Thursday.....	86	86 1/2	87	87 1/2
Friday.....	86	86 1/2	87	87 1/2

Private elevators in Chicago are estimated to contain an aggregate of about 850,000 bu. of wheat which is not included in the visible supply. But with that amount added the supply is a very light one.

It is reported that the crop in the northwest has been damaged some by rust and blight.

The stock of wheat in Liverpool is reported as equal to 3,840,000 bu. against 4,300,000 bu. a month ago and 8,200,000 bu. a year ago. The wheat and flour on ocean passage has increased 450,000 bu. since the last previous statement, while that of corn has decreased 80,000 bu.

Cable reports received at Chicago state that the French wheat crop will be short by at least 6,000,000 qrs. (45,000,000 bu.) and that with the most favorable weather from this time till the close of harvest the English wheat crop will be 30 per cent less than last year.

Advisers from Russia say that owing to the poor harvests in southern and western Europe, extraordinarily large orders for new grain have already been received at Odessa, and the exports thence this fall are expected to be enormously large. Harvest prospects in South Russia generally are most satisfactory, especially in Cherson, Taurida and Bessarabia. In the northwestern parts of Russia prospects are less satisfactory, but an average yield is nevertheless expected.

In Austria-Hungary the weather has been peculiarly unfavorable for wheat, rain fall-

ing only at intervals when it was needed for the development of the plant, while the downpour became uninterrupted when the harvest was about to commence. The official report of July 3 states that the wheat fields in some districts have been laid and that rust has set in. A telegram from Pesth, July 11, to the London Standard, says that the wheat, rye and barley crops have been harvested throughout Hungary, except in the northern part, and that the yield generally is estimated at 20 to 25 per cent less than last year.

Wheat shipments from South Australia are progressing slowly. Stocks in the interior are very large and as holders are firm and European prices are unsatisfactory, large stocks will probably be carried over to next season. Victoria is also shipping slowly, and on June 1 the remaining surplus amounted to 130,000 tons. One of the obstacles in the way of shipping wheat to Europe is the difficulty of obtaining ships at a moderate rate of freight.

The following table shows the quantity of wheat "in sight" at the dates named, in the United States, Canada, and on passage to Great Britain and the Continent of Europe:

	Bushels.
Visible supply.....	22,418,808
On passage for United Kingdom.....	16,544,000
On passage for Continent of Europe.....	3,080,000
Total bushels July 7, 1888.....	42,042,808
Total previous week.....	44,548,727
Total two weeks ago.....	47,327,889
Total July 9, 1888.....	54,350,258

The estimated receipts of foreign and home-grown wheat in the English market during the week ending July 31 were 399,400 bu. more than the estimated consumption; and for the eight weeks ending July 7 the receipts are estimated to have been 42,765 bu. less than the consumption. The receipts show an increase for those eight weeks of 3,473,232 bu. as compared with the corresponding eight weeks in 1887.

Shipments of wheat from India for the week ending July 21, 1888, as per special cable to the New York Produce Exchange, aggregated 500,000 bu., of which 380,000 was for the United Kingdom and 120,000 to the Continent. The shipments for the previous week, as cable, amounted to 630,000 bushels, of which 280,000 went to the United Kingdom and 400,000 to the Continent. The shipments from that country from April 1, the beginning of the crop year, to July 21, aggregated 15,200,000 bu., about equally divided between the United Kingdom and the Continent. The wheat on passage from India July 9 was estimated at 4,708,000 bu. One year ago the quantity was 75,552,000 bu.

The Liverpool market on Friday was quoted dull with poor demand. Quotations for American wheat are as follows: No. 2 winter, 6s. 6 1/2 d. @ 6s. 7 1/2 d. per cental; No. 2 spring, 6s. 6 1/2 d. @ 6s. 7 1/2 d.; California No. 1 6s. 7 1/2 d. @ 6s. 8 1/2 d.

CORN AND OATS.

CORN.

The receipts of corn in this market the past week were 13,352 bu., against 11,471 bu. the previous week, and 7,740 bu. for the corresponding week in 1887. Shipments for the week were 5,388 bu., against 19,030 bu. the previous week, and 7,740 bu. for the corresponding week in 1887. The visible supply of corn in the country on July 28 amounted to 3,874,133 bu. against 3,899,857 bu. the previous week, and 7,542,466 bu. at the same date in 1887. The visible supply shows a decrease during the week indicated of 15,724 bu. The stocks now held in this city amount to 23,013 bu. against 24,278 bu. last week, and 5,005 bu. at the corresponding date in 1887. As compared with a year ago the visible supply shows an increase of 831,667 bu. Corn closes weak, with values on spot slightly lower than a week ago. The promise of the largest crop ever grown in the country, although some months must yet elapse before it can be made available, is weakening the market.

Then the price here has been too high to permit a large export, and southern Europe has supplied a large share of what the United States had heretofore furnished, and the export demand consequently has been light. No. 2 sold here yesterday at 46 1/4 @ 46 1/2 c. In futures No. 2 for December delivered opened at 39 1/2 c, and closed at 39c, the same figures as a week ago. At Chicago the market was very irregular, finally closing below the previous day's figures. Latest quotations there were as follows: No. 2 spot, 45 1/2 c; August delivery, 45 1/2 c; September, 45 1/2 c; October, 44 1/2 c; May, 39 1/2 c. These prices are all higher than a week ago.

The Liverpool market on Friday was quiet and demand light. The following are the latest cable quotations from Liverpool: Spot mixed, 4s. 7d. per cental. Futures: August delivery, 4s. 7d.; September, 4s. 7 1/4 d. per cental.

OATS.

The receipts at this point for the week were 25,163 bu., against 11,568 bu. the previous week, and 66,414 bu. for the corresponding week last year. The shipments for the week were nothing against nothing the previous week, and 4,002 bu. for same week in 1887. The visible supply of this grain on July 28 was 2,655,404 bu., against 3,052,783 bu. the previous week, and 2,054,080 at the corresponding date in 1887. The visible supply shows a decrease of 387,379 bu. for the week indicated. Stocks held in store here amount to 11,338 bu., against 13,594 bu. the previous week, and 62,229 bu. at the corresponding date in 1887. Oats are steady, with sales of new No. 2 white at 31c, and No. 2 mixed at 27c. Old are scarce, and no sales reported. In futures No. 2 white for August delivery sold at 28 1/2 c, and September at 28 1/2 c. No. 3 mixed, August delivery sold at 25 1/2 c, and September at 25 1/2 c per bu., closing quiet. Receipts are increasing, and there may be a further decline in spot, but not anything important. The crop has yielded well in this State, and generally of good quality. At Chicago the market was firmer and more active, with an advance of 3/4 c on all futures. Light receipts and wet weather caused the advance. Closing prices were as follows: No. 2 mixed, spot, 25 @ 25 1/2 c; August delivery, 25; September, 24 1/2 c; October, 23 1/2 c, and May at 28 1/2 c per bu. The New York market is slightly higher than a week ago, except for western white which has declined. Market closed firm under light receipts. Quotations in that market are as follows: No. 2 white, 40 1/4 @ 42c;

No. 3 white, 39 1/4 @ 40c; No. 2 mixed, 36 1/4 @ 38c. In futures No. 2 mixed for August delivery sold at 30 1/2 c, September at 29 1/2 c, and October at 29 1/2 c. Western sold at 42 @ 47c for white, and 36 @ 39c for mixed.

DAIRY PRODUCTS.

BUTTER.

Market quiet and unchanged, with fancy dairy firm at current figures. Receipts are lighter, however, and an improvement in values would not be a surprise. Fancy dairy is quoted at 16 @ 17c per lb., and fair to good at 12 @ 15c. A good deal of poor stock has been got rid of the past few days at about 10c per lb. Creamery holds steady at 15 @ 30c, but the demand is far from active. At Chicago butter has declined about a cent during the week, and the market is quoted dull and easy. Aside from choice to fancy creameries, which were in some favor on local account, the outward movement was slow. Packing stock was held at 10 1/2 @ 11 1/2 c per lb.; fancy Elgin creameries, 18 @ 18 1/2 c per lb.; fine Iowa, Wisconsin, and Minnesota do, 17 @ 17 1/2 c; fair to good do, 15 1/2 @ 17c; fancy dairies, 15 @ 15 1/2 c; common do, 12 @ 14c. The New York market is quoted dull and heavy, with prices 1/4 @ 1c lower than a week ago. Stocks are large, and receipts are beyond the requirements of the trade. Exporters are doing very little.

Quotations in that market yesterday were as follows:

	Butter.
Creamery, State, full cream.....	30 @ 30 1/2
Creamery, State, full cream, fancy.....	19 @ 19 1/2
Creamery, State, full cream, choice.....	17 @ 17 1/2
Creamery, good.....	15 @ 15 1/2
Creamery, fair.....	13 @ 13 1/2
State dairy, full cream.....	17 @ 17 1/2
State dairy, full cream, fancy.....	15 @ 15 1/2
State dairy, full cream, choice.....	13 @ 13 1/2
State dairy, full cream, good.....	11 @ 11 1/2
State dairy, full cream, fair.....	9 @ 9 1/2
State dairy, full cream, poor.....	7 @ 7 1/2
State dairy, full cream, very poor.....	5 @ 5 1/2

Quotations in that market yesterday were as follows:

	Butter.
Creamery, State, full cream.....	30 @ 30 1/2
Creamery, State, full cream, fancy.....	19 @ 19 1/2
Creamery, State, full cream, choice.....	17 @ 17 1/2
Creamery, good.....	15 @ 15 1/2
Creamery, fair.....	13 @ 13 1/2
State dairy, full cream.....	17 @ 17 1/2
State dairy, full cream, fancy.....	15 @ 15 1/2
State dairy, full cream, choice.....	13 @ 13 1/2
State dairy, full cream, good.....	11 @ 11 1/2
State dairy, full cream, fair.....	9 @ 9 1/2
State dairy, full cream, poor.....	7 @ 7 1/2
State dairy, full cream, very poor.....	5 @ 5 1/2

Quotations in that market yesterday were as follows:

	Butter.
Creamery, State, full cream.....	30 @ 30 1/2
Creamery, State, full cream, fancy.....	19 @ 19 1/2
Creamery, State, full cream, choice.....	17 @ 17 1/2
Creamery, good.....	15 @ 15 1/2
Creamery, fair.....	13 @ 13 1/2
State dairy, full cream.....	17 @ 17 1/2
State dairy, full cream, fancy.....	15 @ 15 1/2
State dairy, full cream, choice.....	13 @ 13 1/2
State dairy, full cream, good.....	11 @ 11 1/2
State dairy, full cream, fair.....	9 @ 9 1/2
State dairy, full cream, poor.....	7 @ 7 1/2
State dairy, full cream, very poor.....	5 @ 5 1/2

Quotations in that market yesterday were as follows:

	Butter.
Creamery, State, full cream.....	30 @ 30 1/2
Creamery, State, full cream, fancy.....	19 @ 19 1/2
Creamery, State, full cream, choice.....	17 @ 17 1/2
Creamery, good.....	15 @ 15 1/2
Creamery, fair.....	13 @ 13 1/2
State dairy, full cream.....	17 @ 17 1/2
State dairy, full cream, fancy.....	15 @ 15 1/2
State dairy, full cream, choice.....	13 @ 13 1/2
State dairy, full cream, good.....	11 @ 11 1/2
State dairy, full cream, fair.....	9 @ 9 1/2
State dairy, full cream, poor.....	7 @ 7 1/2
State dairy, full cream, very poor.....	5 @ 5 1/2

Quotations in that market yesterday were as follows:

	Butter.
Creamery, State, full cream.....	30 @ 30 1/2
Creamery, State, full cream, fancy.....	19 @ 19 1/2
Creamery, State, full cream, choice.....	17 @ 17 1/2
Creamery, good.....	15 @ 15 1/2
Creamery, fair.....	13 @ 13 1/2
State dairy, full cream.....	17 @ 17 1/2
State dairy, full cream, fancy.....	15 @ 15 1/2
State dairy, full cream, choice.....	13 @ 13 1/2
State dairy, full cream, good.....	11 @ 11 1/2
State dairy, full cream, fair.....	9 @ 9 1/2
State dairy, full cream, poor.....	7 @ 7 1/2
State dairy, full cream, very poor.....	5 @ 5 1/2

Quotations in that market yesterday were as follows:

	Butter.
Creamery, State, full cream.....	30 @ 30 1/2
Creamery, State, full cream, fancy.....	19 @ 19 1/2
Creamery, State, full cream, choice.....	17 @ 17 1/2
Creamery, good.....	15 @ 15 1/2
Creamery, fair.....	13 @ 13 1/2
State dairy, full cream.....	17 @ 17 1/2
State dairy, full cream, fancy.....	15 @ 15 1/2
State dairy, full cream, choice.....	13 @ 13 1/2
State dairy, full cream, good.....	11 @ 11 1/2
State dairy, full cream, fair.....	9 @ 9 1/2
State dairy, full cream, poor.....	7 @ 7 1/2
State dairy, full cream, very poor.....	5 @ 5 1/2

Quotations in that market yesterday were as follows:

	Butter.
Creamery, State, full cream.....	30 @ 30 1/2
Creamery, State, full cream, fancy.....	19 @ 19 1/2
Creamery, State, full cream, choice.....	17 @ 17 1/2
Creamery, good.....	15 @ 15 1/2
Creamery, fair.....	13 @ 13 1/2
State dairy, full cream.....	17 @ 17 1/2
State dairy, full cream, fancy.....	15 @ 15 1/2
State dairy, full cream, choice.....	13 @ 13 1/2
State dairy, full cream, good.....	11 @ 11 1/2
State dairy, full cream, fair.....	9 @ 9 1/2
State dairy, full cream, poor.....	7 @ 7 1/2
State dairy, full cream, very poor.....	5 @ 5 1/2

Quotations in that market yesterday were as follows:

	Butter.
Creamery, State, full cream.....	30 @ 30 1/2
Creamery, State, full cream, fancy.....	19 @ 19 1/2
Creamery, State, full cream, choice.....	17 @ 17 1/2
Creamery, good.....	15 @ 15 1/2
Creamery, fair.....	13 @ 13 1/2
State dairy, full cream.....	17 @ 17 1/2
State dairy, full cream, fancy.....	15 @ 15 1/2
State dairy, full cream, choice.....	13 @ 13 1/2
State dairy, full cream, good.....	11 @ 11 1/2
State dairy, full cream, fair.....	9 @ 9 1/2
State dairy, full cream, poor.....	7 @ 7 1/2
State dairy, full cream, very poor.....	5 @ 5 1/2

Quotations in that market yesterday were as follows:

	Butter.
Creamery, State, full cream.....	30 @ 30 1/2
Creamery, State, full cream, fancy.....	19 @ 19 1/2
Creamery, State, full cream, choice.....	17 @ 17 1/2
Creamery, good.....	15 @ 15 1/2
Creamery, fair.....	13 @ 13 1/2
State dairy, full cream.....	17 @ 17 1/2
State dairy, full cream, fancy.....	15 @ 15 1/2
State dairy, full cream, choice.....	13 @ 13 1/2
State dairy, full cream, good.....	11 @ 11 1/2
State dairy, full cream, fair.....	9 @ 9 1/2
State dairy, full cream, poor.....	7 @ 7 1/2
State dairy, full cream, very poor.....	5 @ 5 1/2

Quotations in that market yesterday were as follows:

	Butter.
Creamery, State, full cream.....	30 @ 30 1/2
Creamery, State, full cream, fancy.....	19 @ 19 1/2
Creamery, State, full cream, choice.....	17 @ 17 1/2
Creamery, good.....	15 @ 15 1/2
Creamery, fair.....	13 @ 13 1/2
State dairy, full cream.....	17 @ 17 1/2
State dairy, full cream, fancy.....	15 @ 15 1/2
State dairy, full cream, choice.....	13 @ 13 1/2
State dairy, full cream, good.....	11 @ 11 1/2
State dairy, full cream, fair.....	9 @ 9 1/2
State dairy, full cream, poor.....	7 @ 7 1/2
State dairy, full cream, very poor.....	5 @ 5 1/2

Quotations in that market yesterday were as follows:

	Butter.
Creamery, State, full cream.....	30 @ 30 1/2
Creamery, State, full cream, fancy.....	19 @ 19 1/2
Creamery, State, full cream, choice.....	17 @ 17 1/2
Creamery, good.....	15 @ 15 1/2
Creamery, fair.....	13 @ 13 1/2
State dairy, full cream.....	17 @ 17 1/2
State dairy, full cream, fancy.....	15 @ 15 1/2
State dairy, full cream, choice.....	13 @ 13 1/2
State dairy, full cream, good.....	11 @ 11 1/2
State dairy, full cream, fair.....	9 @ 9 1/2
State dairy, full cream, poor.....	7 @ 7 1/2
State dairy, full cream, very poor.....	5 @ 5 1/2

Quotations in that market yesterday were as follows:

	Butter.
Creamery, State, full cream.....	30 @ 30 1/2
Creamery, State, full cream, fancy.....	19 @ 19 1/2
Creamery, State, full cream, choice.....	17 @ 17 1/2
Creamery, good.....	15 @ 15 1/2
Creamery, fair.....	13 @ 13 1/2
State dairy, full cream.....	17 @ 17 1/2
State dairy, full cream, fancy.....	15 @ 15 1/2
State dairy, full cream, choice.....	13 @ 13 1/2
State dairy, full cream, good.....	11 @ 11 1/2
State dairy, full cream, fair.....	9 @ 9 1/2
State dairy, full cream, poor.....	7 @ 7 1/2
State dairy, full cream, very poor.....	5 @ 5 1/2

Quotations in that market yesterday were as follows:

	Butter.
Creamery, State, full cream.....	30 @ 30 1/2
Creamery, State, full cream, fancy.....	19 @ 19 1/2
Creamery, State, full cream, choice.....	17 @ 17 1/2
Creamery, good.....	15 @ 15 1/2
Creamery, fair.....	13 @ 13 1/2
State dairy, full cream.....	17 @ 17 1/2
State dairy, full cream, fancy.....	15 @ 15 1/2
State dairy, full cream, choice.....	13 @ 13 1/2
State dairy, full cream, good.....	11 @ 11 1/2
State dairy, full cream, fair.....	9 @ 9 1/2

Poetry.

OUR AIN FOLK.

I wish we were home to our ain folk,
Our kind and our true-hearted ain folk,
Where the gentle are real and the simple are
weal.

And the hames are the hames o' our ain folk,
We've met wif the gay and the guld where we've
come;

We're courtly wif moony and couthy wif some;
But something's still wanting we never can find
Since the day that we left our auld neebors be-
hind.

I wish we were home to our ain folk,
Our kind and our true-hearted ain folk,
Where daffin' and glee wif the friendly and free
Made our hearts aye fond o' our ain folk.

Some tauld us in gowps we'd gather the gear,
So soon as we came to the rich mairies here;
But what is in mairies and what is in mairies,
If 'tisna enjoyed in the glen o' our birth!

I wish we were home to our ain folk,
Our kind and our true-hearted ain folk,
Where maidens and men in the kirch and the
glen

Still welcome us aye as their ain folk,
Though spring had its trials and summer its toils,
And autumn craved pith and we gathered its
spills.

Yet winter repaid a' the toll that we took,
When lik an aye crawled crouse at his ain in-
gle-nook.

I wish we were home to our ain folk,
Our kind and our true-hearted ain folk,
But deep are the hoves and as high are the
knowes

That keep us awa' frae our ain folk,
The seat at the door where our auld fathers sat,
To tell o' their news and their views and a'
that.

While down by the kale yard the burnie rowed
clear,
Is naair to my liking than aught that is here.

I wish we were home to our ain folk,
Our kind and our true-hearted ain folk,
Where the wild thistles were o' the beds of
the brave.

And the graves are the graves o' our ain folk,
But happy gae lucky, we'll tidge on our way,
Till the arm waves weak and the haffat grows
grey;

And, though in this war' our ain folk we miss,
We'll meet them again in a war' o' our folk,
And then we'll be home to our ain folk,
Our kind and our true-hearted ain folk.

Where, far 'yont the moonie the heavens above,
The hames are the hames o' our ain folk,
—Scottish American.

WHERE THEY GO.

"In court," said the card on the lawyer's door;
"Back in ten minutes," on many more;
"Come to the hospital," on the doctor's plate;
On another "sit down and wait";
"Come to the bank," on the notary's sign;
"Arbitration," that young clerk of mine;
"Back soon," on the broker's book;
"Collecting rents," on my agent's book.
They were all too busy, a matter quite new,
Very sorry was I, I had nothing to do;
Then I hid me hence to the base ball ground,
And every man on the grand stand found.

Miscellaneous.

FELICIA.

One sultry evening in August three young
people were standing talking in a country
garden which was as quaint and old-
fashioned as the red-brick house to which
it belonged. Two of the trio were girls,
and the third was a tall broad-shouldered
young man clad in a brown velvet shooting
suit. His two companions were in
evening dress, and he was apologizing to
them for his morning attire.

"The fact is," he was saying, "I had a
lot of letters to turn out and burn; and I
thought if I did it to-night I should be able
to have a good long day with you to-morrow
before I sail."

"I like that old suit of yours, cousin
Jack," said the shorter of the two girls;
"and, when you return from Australia—a
millionaire, sir, or we will not receive you—
you are to look just as you do now. You
are to wear those old velvet clothes; and you
are not on any account to grow a beard
while you are away, or I for one will not
speak or even look at you."

"Do listen to her, Felicia," said cousin
Jack, laughing. "Will you ever hear such
a young tyrant? Well, Deb, I cannot
promise not to wear a beard while I am
away, but I row solemnly not to return
with one. Will that please your ladyship?"

"Yes, Jack. Remember the reception
you will meet with if you break your word;
and whether you wear one while you are
away or not, I shall always think of you
with only a moustache."

"If ever you take the trouble to think
about me at all," said Jack, lowering his
voice a little and bending his head to see
more clearly the expression of the laughing,
pouting face which was upturned to his.

Felicia, who had been smiling at his
nonsense, suddenly turned away, and
walked back with unsteady steps up the
broad pathway which led to the house. She
passed slowly through the hall and into the
drawing-room, then went to the window
and looked out. Jack and his companion
were disappearing down one of the paths
which led into the orchard, and Felicia
could just distinguish the outline of Deb's
figure in her white dress. The girl sat
down by the window and buried her face
in her hands.

"All these months," she was thinking,
"I never guessed! How blind I have
been—how blind! He cares for Deb—my
dear little Deb—and I—"

She must have waited half an hour be-
fore she heard footsteps coming up the gar-
den-path and the voices of Jack and Deb.

"Felicia, where are you?" cried Deb, in
her clear treble, as they entered the draw-
ing-room. "How dark it is!"

"Here—by the window," answered Felicia;
and she was surprised to find that her
voice sounded quite calm.

"We have a piece of news to tell you,
Felicia," said Jack, with a laugh, putting
his arm round Deb. "Can you guess what
it is?"

"I—I think I can," returned Felicia, in
a low voice. "Jack is anxious to become
my brother as well as my cousin."

"You dear old Felicia!" cried Deb, kiss-
ing her sister vehemently. How did you
guess? I never knew myself till just now
—when Jack told me."

"Lookers-on see most of the game," de-
clared Felicia, trying to speak lightly. "I
congratulate you both with all my heart,
and I hope you will be very happy."

"You must let me give you a brotherly

kiss to seal your good wishes!" cried Jack,
gaily.

Felicia drew back, pale but smiling.
"You must keep them all for Deb now,"
she answered, stroking Deb's soft little
hand.

"We are not going to tell any one else,
you know, Felicia, until Jack has made his
fortune," remarked Deb confidentially.
"Grandmamma would be sure to object on
the score of my age, for"—turning to Jack
—"I am only sixteen and a half, Mr. Jack
Ffoliott—nine years younger than you!
Have you taken that into consideration?"

Mr. Ffoliott murmured a few words in a
low voice.

Felicia rose and left the room hastily—a
fact hardly noticed by Deb or Jack, who
were too engrossed with each other. Swiftly
Felicia fled to her bedroom, closed and
locked the door, and, throwing her window
wide open, leaned out, panting for breath,
for her heart was beating so violently that
she felt she would be suffocated.

"Thank Heaven," she murmured, "that
Jack is going away so soon! I shall get
used to it in time. Oh, Jack, Jack!"—and,
with a great sob, she turned and flung her-
self upon the bed, burying her face in the
snow-white coverlet.

Felicia and Deborah Ffoliott were left
orphans when mere children, and they had
resided with their grandmother ever since.
Three years after Jack's departure for Aus-
tralia Mrs. Gerard, their grandmother, died,
and the two girls went to live with a rich
widowed and childless aunt. Mrs. Brooke
was only too happy to chaperon two such
beauties as her young nieces undoubtedly
were, for she found that her society was
much sought after since their arrival; and
Deb and Felicia, having led rather a seclu-
ded life with their grandmother, were very
glad to see a little more of the world, in
which their beauty gained them a hearty
welcome whithersoever they went.

Jack Ffoliott met, with many ups and
downs in Australia, and found that the
much-talked-of fortune was not so easily
acquired as he had expected. At the end
of five years however there came a letter
from him to Deb, saying that affairs were
taking a turn for the better, and progress-
ing so favorably that he hoped in a few
months to return to England, and that he
was looking forward to the time when he
would be able to claim little Deb for his
own. The writer went on to complain that
Deb was getting lazy, that her letters were
few and far between; he supposed that her
time was so taken up with her London
triumphs that she could not spare an hour
or two to write such long letters as she used
to do.

Deb had changed but little in appearance
since the night when Jack had told her of
his love. Her figure was more rounded and
she was a little taller; otherwise there was
no perceptible difference. In Felicia how-
ever there was a marked alteration. From
a slim pretty girl she had developed into
an exquisitely beautiful woman, and was as
unlike Deb as it is possible for one sister to
be unlike another. Deb was small and
dark, with large black eyes and a saucy
little nose and chin; while Felicia was tall
and fair, with a complexion like a rose-leaf,
and soft masses of fair hair curling over a
low white brow, from beneath which her
eyes shone like two great stars. There was
a faint trace of melancholy in her charming
smile and bright blue eyes, which seemed
to lighten her beauty and to attract men
in a marvellous manner. Felicia and
Deborah had indeed gone through two tri-
umphant seasons, and had rejected numer-
ous offers. Deb was decidedly a flirt; but
she had always told Jack of her conquests,
and, so long as she could speak openly of
them, he did not think there could be much
harm done. Felicia never flirted, but men
pleaded for her hand just the same, and in
vain, for she refused every one in her calm
sweet way.

One afternoon during their second sea-
son in town both the girls happened to be
at home—a rare occurrence, owing to their
numerous engagements—and they were
making the most of their leisure.

Felicia was leaning back idly in a com-
fortable arm chair by the open window
overlooking the Park, opposite to which
Mrs. Brooke's house was situated; and her
hands were folded listlessly in her lap,
while her thoughts were miles away from
London and its busy inhabitants.

Deb was lying on the sofa, pretending to
read, but her book was upside-down, she
was evidently not very deeply interested in
it. Presently she broke the silence, which
must have lasted for several minutes.

"Felicia, are you not glad that we re-
fused Lady Lamm's garden-party this after-
noon? I declare it is quite delightful to
get a few hours to one's self!"

"It is indeed," assented Felicia languid-
ly, with half-closed eyes.

"Not that I have any right to be loung-
ing here, for I owe at least half a dozen
letters," continued the younger sister.

"Deb, have you answered Jack's last
letter yet?"—"No."

"And you wrote only a few lines last
time."

"I could not help it—I had no time."

There was a rather uncomfortable silence
for a few minutes, and then Felicia re-
sumed the conversation by saying—

"Do you know that Captain Wyatt has
been here every day this week, and that he
is coming with us to the opera to-night?"

"Well?" inquired Deb, holding her book
so that it concealed her face from Felicia's
view.

"He does not come to see me or aunt
Catherine."

"I suppose you mean that I—that I am
flirting with Captain Wyatt?" said Deb in a
strangely unnatural tone. "I might make
the same remark of you a *propos* of another
person. Colonel Wolverton has also been
here nearly every day this week—or we
have met him out—and he is coming with
us to the opera to-night. He certainly
does not come to see me. If you flirt with
Colonel Wolverton, why should I not flirt
with Captain Wyatt?"

"Deb, I never thought that you would
accuse me of flirting. I never flirted with
any one in my life." Felicia paused for a
minute, and then went on, in a low voice,
"Last season Colonel Wolverton proposed
to me, and I refused him point blank. I
told him—with an effort—that I had no
intention of marrying him or any one else.
He would not take 'No' for an answer;

he said as long as I was free he should
kiss me, and it was no use for me to tell him,
as I did over and over again, that his atten-
tions were wasted. I should not have men-
tioned this only I did not want you to
think I had behaved so badly. But, after
all, Deb, even if I had flirted, you forget
that I am free."

"Oh, it is well known that Captain Wyatt
is one of the greatest flirts in London!"
said Deb, with a mirthless laugh. "He is
not likely to come to harm."

"Captain Wyatt, I know," Felicia ac-
quiesced, "is acknowledged to be a tre-
mendous flirt; but the greatest flirts are not
invariably. Captain Wyatt has not treated
of us as he treats other women. He loves
you; and, when a man of his nature loves—"

"I really cannot see what you should
know about the state of Captain Wyatt's
heart," broke in Deb, in rather an unsteady
voice.

"Deb, my dear, please do not think that
I watch you or try to pry into your affairs.
For indeed I do not; but the kind; but one
cannot help seeing what is going on
sometimes; and last night, when aunt
Catherine and I were waiting for you to
finish that waltz, you passed us, dancing
rather slowly because of the crush. You
said something to him—I do not know
what; but it seemed to me that he looked
at you in a way that I have never seen him
look at any other woman—as a man never
does look at a woman unless he really cares
for her. Deb, dear—I hate saying this to
you, but no one else will—I do not think
you are behaving honorably to Jack or
Captain Wyatt. If you only knew the
misery you may be bringing upon both your-
self and them—"

Felicia stopped abruptly, for Deb's book
had fallen to the ground with a crash, and
Deb herself, with her face hidden in the
soft cushions, was sobbing as if her heart
would break. The elder sister rushed to
the sofa, surprised and distressed beyond
measure.

"My dear Deb, what is the matter?" she
exclaimed. "Oh, don't cry like that! I
never meant to make you so miserable.
Cheer up, my pet! I dare say it is all my
stupid imagination."

"No, it is not," sobbed Deb; "and I am
the most miserable girl in the world—for I
love Dick Wyatt with all my heart and
soul—I do. I worship the ground he walks
on! Oh, it was cruel to let me engage my-
self to Jack when I was so young! I was a
mere child—what did I know about love?
Jack ought never to have let me bind my-
self to him."

Felicia stood still, bewildered, unable to
utter a word.

"I tried to tell Dick last night of my en-
gagement," continued Deb; "and, when it
came to the point, the words seemed to
stick in my throat—I could not utter them.
He almost told me that he cared for me;
and I—I let him go away thinking that I
was free to marry him!"

"My poor little Deb! If only your en-
gagement had been properly announced, all
this misery might have been saved. You
see even aunt Catherine knows nothing about
it!"

"If I had thought it would ever have
come to this, I would have told Dick long
ago; but it is gone on from day to day,
and it was only a few days ago that I found
we cared for each other. Oh, Felicia, what
shall I do?"

"You must tell him to-night, Deb—or I
must. It must not go on any longer," an-
swered Felicia, sorrowfully.

"He will never forgive me!" Poor Deb
burst into sobs again, and Felicia's eyes
filled with sympathetic tears.

Just at that moment there was the sound
of carriage wheels stopping at the door, and
the girls heard a double knock.

"That must be aunt Catherine, Felicia,"
said Deb, getting up hastily.

"Tell her I am lying down in my room
with a headache. Oh, Felicia, how shall I
get through this evening? Colonel Wolver-
ton and Dick are both coming to dinner,
you know; and Deb ran upstairs."

"How is your headache, my dear?" asked
Mrs. Brooke, as her younger niece entered
the dining-room, where they had already
begun dinner. "Do you feel well enough to
go out this evening?"

"Oh, yes, aunt Catherine—quite well
enough!" said Deb hastily, as she slipped
into her seat next to Colonel Wolverton
after shaking hands with him and with
Captain Wyatt.

Deb was rather quiet during dinner, but
only Felicia knew the cause, and the others
attributed it to her headache. When the
two gentlemen joined the ladies in the
drawing-room, they found only the two
girls there. Felicia was fastening a creamy
yellow rose in her bodice, and Deb was put-
ting on a long pair of gloves that matched
her broadened amber-colored dress.

"Aunt Catherine will be ready in about
ten minutes," said Felicia, "and mean-
while—"

"Meanwhile," interposed Colonel Wol-
verton, who was a tall distinguished-looking
man of about forty with hair already
tinged with gray, "Miss Ffoliott, you will
just have time to sing 'Eurydice.' No, I
am not going to take any refusal; so resign
yourself."

She went into the adjoining room with
Colonel Wolverton, and Deb was left alone
with her lover, the curtains which divided
the two rooms effectually hiding the two
couples from each other.

Captain Wyatt was a tall fair man with a
bronzed skin, a tawny drooping moustache,
and intensely keen dark gray eyes; his fig-
ure was slim and upright, and he looked a
model soldier. He was leaning against the
mantel-piece, twirling his moustache and
looking down with an amused smile at
Deb's endeavors to button her gloves. Her
hands were trembling so that she could not
succeed in fastening a single button.

"Allow me," said Captain Wyatt, offering
his services; and then, under cover of the
music, he whispered, "It was very cruel
of you not to come to Lady Lamm's garden
party this afternoon. You knew I should
be there—I told you so last night. What
have I done that you should be so unkind?"

"Captain Wyatt," began poor Deb, all
her ecstacy having vanished; and then she
looked up at him, and her eyes were filled
with tears.

Captain Wyatt was overcome at the sight
of Deb's tears, and hardly aware of what

he was doing, he drew her to his breast and
kissed her lips.

"My darling!" he whispered. "Deb, do
you love me?"

At that moment footsteps were heard
echoing along the hall; and he had hardly
time to let her go before the door opened
and disclosed Deb's affianced lover, Jack
Ffoliott. Felicia's music ended with a
discordant crash, and with a wild cry, Deb
staggered and would have fallen had not
Captain Wyatt caught her in his arms.

Jack crossed the room.

"Give her to me!" he said quickly to
Dick Wyatt.

"By what right?" inquired the Captain,
haughtily.

"By that of her future husband!" an-
swered Jack curtly; and, without a word,
he took her into his arms.

"Take her into the library, Jack," said
Felicia, in an agitated tone. "Ask Mrs.
Brooke to come down at once," she request-
ed of the astonished servant whom she had
immediately summoned.

A few minutes afterwards, when Felicia
returned to the drawing-room, she found
Colonel Wolverton looking over an album
and Captain Wyatt staring moodily out of
the window. His brows were knitted in a
dark frown and his mouth was set and
stern. He turned slightly as Felicia en-
tered, but he was the Colonel who inquired
after Miss Deborah.

"She is better, I am glad to say," an-
swered Felicia, rather tremulously; "but
we had some difficulty in bringing her
round. It was a great shock to her—to us
all—my cousin's appearance so suddenly.
We thought he was in Australia."

"I wonder he did not write to announce
his coming," observed the Colonel.

"He did," answered Felicia; "but his
letter miscarried. Deb—we never received
it. Aunt Catherine begs that you will ex-
cuse our going to the opera to-night; she is
very sorry, but of course in the circum-
stances we are compelled to remain at
home."

"Of course," agreed Colonel Wolverton—
"we quite understand. Come, Wyatt—we
will not detain Miss Ffoliott any longer. I
hope your sister will have quite recovered
by to-morrow. Good-night!"

Felicia shook hands with both; but, as
she bade good-bye to Captain Wyatt, the
expression on his face made her say im-
pulsively—

"Do not be too hard on poor Deb, Captain
Wyatt; forgive her, for indeed—"

"Do you think," he interrupted bitterly,
"that she cares one jot whether she has my
forgiveness or not? Let her lover console
her. As for me, I will never look upon her
face again if I can help it. It is intolerable
to me to think how she led me on all these
months! Tell her I will banish her from
my thoughts as though she had never ex-
isted!"

Five long weeks passed away, and the
announcement of Deborah Ffoliott's en-
gagement to her cousin Jack had ceased to
be a topic of interest among her friends,
acquaintances and enemies. There was a
great deal of gossip about her at first, and
some said that, finding she could not se-
cure Captain Wyatt as a husband, she had
taken her cousin, who was far too rich, too
handsome, too good for her in every
way. There were others who maintained
that they had always known it was not-
ting but a flirtation between Dick Wyatt
and Miss Deborah. But, whatever was
said of Deb, one and all envied her, for
Jack had made more money than he knew
what to do with. He was strikingly hand-
some, was still young, possessed charming
manners, and, above all, was apparently
devoted to his fiancée.

After her lover's return, Deb went into
society more than ever. She was hardly
ever alone with Jack; she laughed, talked
and danced with untiring zest. But, al-
though apparently in the best of spirits, a
night never passed but that she cried her-
self to sleep. Once Felicia went into her
bed-room after their return from a ball, and
she found her sister, in her ball-dress, ly-
ing upon the bed, her whole frame shaken
with sobs. Felicia's heart ached for the
girl, for she had experienced it all herself.
She drew Deb's head against her bosom,
kissed her with sympathetic tears, and con-
soled her as best she could.

"I cannot bear it, Felicia—I cannot bear
it! Oh, his scorn seems to stab me; and
he looks so worn and haggard and miser-
able! He has kept his word—Felicia—oh,
yes, he has kept his word—and he would
sooner die than break it. He has never
spoken to me since that night or touched
my hand; and, if he looks at me, his scorn
is expressed so plainly in his eyes that I
write beneath their gaze. He gave me
just such a look to-night—I cannot get
it out of my head. I wish I were dead!"

Felicia did not know what to say, for,
between her love for Jack and Deb and her
sympathy with Dick Wyatt she felt utterly
powerless.

Jack Ffoliott too was restless and dis-
satisfied. He was dissatisfied with Deb
and himself. She was not looking well and
was not at all like herself; and, though ap-
parently lighter-hearted than any of the
other girls he met, there were times when
he felt certain that she had been crying,
and that all her gaiety was assumed in
order to hide an aching heart. She was
always sweet-tempered; but he noticed that
she tried to avoid being alone with him,
and had never once since his return offered
to kiss him of her own accord. There was
a subtle change in her manner which almost
convinced him at times that her heart was
no longer his. One time Jack became
conscious of what was Captain Wyatt's
house, although, as he had learned, the
young officer had been formerly a frequent
guest. Jack also noticed the studied and
persistent manner in which Wyatt and Deb
avoided each other when they met by ac-
cident. Coupling this with the fact that the
Captain's behavior was rather peculiar at
their first meeting, and even allowing for
his natural astonishment at beholding an
apparent stranger claim Miss Ffoliott in so
familiar a manner, Jack at last came to the
conclusion that there was something really
wrong. His own feelings too seem-
ed to have undergone a change, and he
felt angry with himself because the
warmth of his old love for Deb seemed to
be cooling down into a calm, coolly affec-
tion. He frequently found himself thinking
how beautiful and charming his cousin

Felicia had grown, and he would wonder
whether she was going to marry that fine
looking fellow Wolverton. At this stage of
his thoughts, poor Jack would shake him-
self with a sigh, as he remembered that he
was still engaged to Deb, and that every-
thing seemed upside-down.

The Goodwood Races were close to hand,
and the London season was nearly over,
when a trifling occurrence convinced Deb's
fiancee that there had been more than
friendship between his future wife and
Captain Wyatt. As Jack was coming out
of the opera-house one evening, with Deb
on his arm, Captain Wyatt ran against
them. Turning, with a smile, to apologize
for his clumsiness, he caught sight of Deb,
and the smile at once left his lips. Jack
felt the girl's hand tremble on his arm, and
when he looked at her she was deadly pale.

The young fellow instantly formed a resolu-
tion, which he afterwards kept.

The next evening Jack received a mes-
sage to say that Deb had such a bad head-
ache that she would be unable to go to Mrs.
Danvers' "At Home," and would Jack go
with Mrs. Brooke and Felicia, or would he
go by himself later on? He sent an an-
swer saying that he would go alone.

Mrs. Brooke and Felicia had just left the
house, when Mr. Ffoliott's name was an-
nounced to Deb, who was lying on a sofa.

"Don't let me disturb you, Deb," he
said. "How is your head?"

"It is rather bad," she answered, feel-
ing vaguely surprised that he only shook
hands with her.

"I want to speak to you about something,
Deb. Do you feel well enough to hear a lit-
tle conversation tonight? I should not ask
you, but I so rarely get a chance of seeing
you alone."

"I am well enough to hear anything you
like to say, Jack."

"Do you know we have been engaged five
years?" he began abruptly.

She started, and her cheeks flushed vivid-
ly.

"I know," she said in a low tone.

"Do you not think it is time we were
married?" he asked, regarding her intently.

"If you wish," she faltered.

"And you will marry me when I like?"
he went on mercilessly.

"Yes, when you like," she answered,
so softly that he had to stoop to catch her
words.

He laughed a melancholy laugh, and stood
up suddenly.

"Deb, my dear," he said, "I am not
going to ask any such sacrifice at your
hands; and I came here tonight to tell you
that I release you from your engagement
to me. You are free to marry whom you
please."

Deb could restrain her tears no longer,
and Jack drew her head against his shoul-
der in quite a brotherly fashion and let her
cry.

"You poor little Deb!" he said, stroking
her hair gently. "You know, my dear,
that five years ago you and I made a great
mistake; but I was far more to blame than
you, for I was years older. I must have
been mad to allow a child like you to en-
gage yourself to me; you were far too
young to know your own mind. I want to
remedy the wrong, and see you look like
your dear bright little self again. Give me
your confidence, my dear, and tell me.
Did you and Wyatt care for each other?"

"Yes," she whispered faintly.

"It

